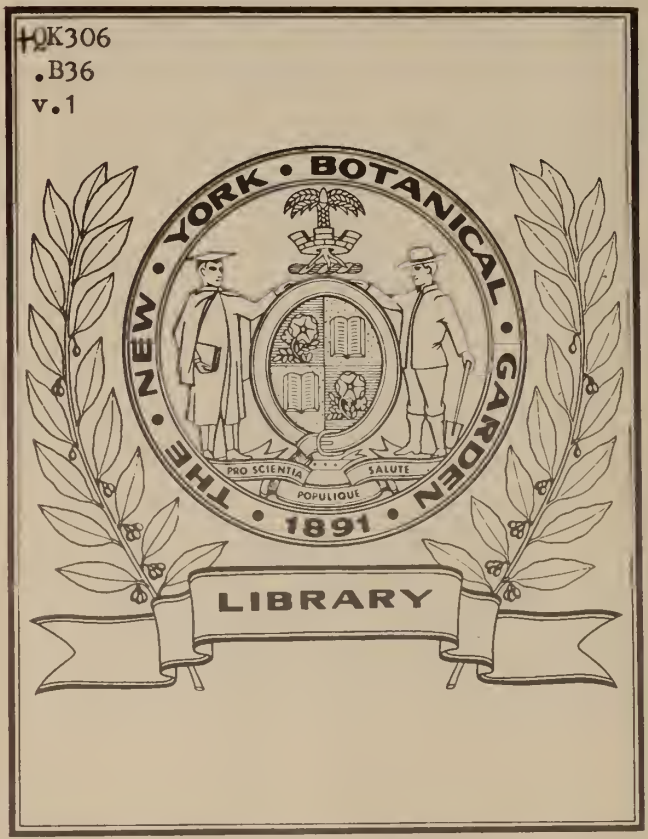

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BRITISH

PHÆNOGAMOUS BOTANY;

OR,

FIGURES AND DESCRIPTIONS

OF THE GENERA

OF

BRITISH FLOWERING PLANTS.

BY W. BAXTER, A. L. S. F. H. S. &c.

CURATOR OF THE OXFORD BOTANIC GARDEN.

There is a lesson in each flower,
A story in each stream and bower,
On every herb on which you tread
Are written words which rightly read,
Will lead you from earth's fragrant sod
To hope, and holiness, and God.

A. CUNNINGHAM.

VOL. I.

OXFORD.

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1834.

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THE object proposed in the present publication, is to supply the lovers of Botany with a set of Figures, which, the author trusts, may be relied on for accuracy, while every unnecessary expence will be avoided; and in order to reduce the work within moderate limits it will be confined to a single species of each Genus of British Flowering Plants, which will be sufficient for all general purposes.

The want of such a work must be felt by every Student of Botany, and the author has been induced to undertake it, chiefly by the complaints of his Pupils, that they could make but little progress without such assistance. He feels confident that the liberality of the Public will repay him for the labour and expence which the work will require; and he has much pleasure in taking this opportunity of expressing his gratitude for the kind support he has already experienced.

The works principally made use of by the author in compiling the Generic and Specific Characters, and the Characters of the Natural Orders, are Sir J. E. Smith's "English Flora;" Dr. Withering's "Botanical Arrangement of British Plants;" Dr. Hooker's "British Flora;" Dr. Lindley's "Introduction to the Natural System of Botany;" and "Synopsis of the British Flora;" and M. Richard's "Elements of Botany;" translated by W. Macgillvray A. M. &c. All of which may be considered as classical works with the Botanical Student.

The latest publications on British Botany contain about 500 Genera of Flowering Plants; consequently the present work, agreeably to the plan adopted, will not exceed six volumes.

Botanic Garden, Oxford, Feb. 25, 1834.

209914

FIELD FLOWERS.

Ye *Field Flowers!* the gardens eclipse you, 'tis true,
Yet, wildlings of Nature, I doat upon you,
For ye waft me to Summers of old,
When the earth teemed around me with fairy delight,
And when *daisies* and *buttercups* gladdened my sight,
Like treasures of silver and gold.

I love you for lulling me back into dreams
Of the blue Highland mountains and echoing streams,
And of broken glades breathing their balm,
While the deer was seen glancing in sunshine remote,
And the deep mellow crush of the wood-pigeon's note,
Made music that sweetened the calm.

Not a pastoral song has a pleasanter tune
Than ye speak to my heart, little wildlings of June;
Of old ruinous castles ye tell:
Where I thought it delightful your beauties to find,
When the magic of Nature first breathed on my mind,
And your blossoms were part of her spell.

Ev'n now what affections the *violet* awakes!
What loved little islands, twice seen in their lakes,
Can the wild *water-lily* restore!
What landscapes I read in the *primrose's* looks,
And what pictures of pebbled and minnowy brooks
In the *Vetches* that tangled their shore!

Earth's cultureless *buds*, to my heart ye were dear,
Ere the fever of passion, or ague of fear
Had seathed my existence's bloom;
Once I welcome you more, in life's passionless stage
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And I wish you to grow on my tomb.

CAMPBELL.

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N. B. When *a* follows a folio, it denotes the second page of that folio.

CORRECTIONS AND ADDITIONS.

Folio 4 a, after the 11th line, add—*Puccinia Violæ*, Grev. Fl. Edin. p. 432; and *Æcidium Violarum*, ibid. p. 444, are frequently found parasitical on the leaves and leaf-stalks of *Viola canina*, on Shotover Hill and Bagley Wood, near Oxford.

Folio 6, line 2, (2nd ed.) *for* MONOGYNIA *read* TETRAGYNIA.

Folio 6, line 19, (1st ed.) *for* London *read* Loudon's.

Folio 16, line 8, (1st ed.) *for* art *read* are.

Folio 32 a, line 4 from the bottom, *for Sphæ'air* (in some copies) *read Sphæ'ria.*

Fol. 36 a, line 2 from the bottom, *for* X NTHIUM (in some copies) *read* XANTHIUM.

Folio 40, lines 18 & 19, from the bottom, *for* White-thorn *read* Black-thorn.

Folio 56, line 2, *for* MONOGYNIA *read* DIGYNIA.

Folio 59, line 2, *for* MONOGYNIA *read* DIGYNIA.

Folio 60, line 21, *for* PA'LUSTRE *read* PALU'STRE.

Fol. 66, line 16 from the bottom, for *Borago* read *Borrago.*

Folio 73 a, line 11, after the Rev. C. ABBOT, insert—"*Bucks;* One of the woods at Stowe, near Black-pit Pond, is remarkable for the *Narcissus Pseudo-narcissus*, with which it is so profusely enamelled, that the country people have denominated it the *Daffodowndilly* Wood." Mr. G. WOODWARD, Surgeon, Bicester, Oxfordshire. (Feb. 16, 1834.)

Folio 80 a, line 22 from the bottom, after 1821, add—JOHNSTON'S *Flora of Berwick*, p. 167.

KING, PRINTER, ST. CLEMENT'S, OXFORD.





FRITILLÁRIA MELEAGRIS - *SNAKE'S HEAD* 2/

FRITILLA'RIA *.

Linnean Class and Order. HEXA'NDRIA, MONOGY'NIA.

Natural Order. LILIA'CEÆ, *Jussieu.*—Lindley's Synopsis, p. 266; Introduction to the Natural System of Botany, p. 279.—Richard's Elements of Botany, translated by W. Macgillivray, A. M. p. 403.—TULIPA'CEÆ, *De Candolle.*

GENERIC CHARACTER. *Calyx* none. *Corolla (Perian'thium,* see p. 33.) inferior, bell-shaped, spreading at the base, of 6 oblong parallel *petals,* each with a *nectariferous* cavity at the base on the inside, (fig. 1.) *Filaments* 6, (fig. 2.) awl-shaped, attached to the bottom of each petal, close to the style, shorter than the corolla. *Anthers* oblong, 4-cornered, upright, attached by the back. *Germen* (fig. 3.) superior, oblong, 3-sided (triangular), blunt. *Style* (fig. 3.) simple, longer than the stamens. *Stigmas* 3, oblong, spreading, downy on the upper side. *Capsule* oblong, blunt, with 3 lobes, 3 cells, and 3 valves, connected by network, with central partitions. *Seeds* numerous, flat, crowded one above another in 2 rows; their outer margin rounded.

Distinguished from other genera in the same class and order by the naked, inferior, bell-shaped corolla of 6 petals, with a nectariferous gland at the base of each.

Only one species British.

FRITILLA'RIA MELEA'GRIS †. Fritillary. Chequered Daffodil. Snake's-head.

SPECIFIC CHARACTER. All the leaves alternate; strap-spear-shaped, pointed. Stem single-flowered. Nectary strap-shaped. Points of the Petals turned inwards.

English Botany, (by Sir J. E. Smith, and Mr. James Sowerby,) t. 622.—Curtis's Flora Londinensis, t. 20.—Hudson's Flora Anglica, (2nd ed.) p. 144.—Smith's Flora Britannica, v. i. p. 360. English Flora, v. ii. p. 139.—Withering's Botanical Arrangements, (7th ed.) v. ii. p. 424.—Lindley's Synopsis, p. 266.—Hooker's British Flora, p. 158.—Sibthorp's Flora Oxoniensis, p. 110.—Abbot's Flora Bedfordiensis, p. 75.—Purton's Midland Flora, v. iii. p. 31.—Relhan's Flora Cantabrigiensis, (3rd ed.) p. 139.—Walker's Flora of Oxfordshire, p. 92.—*Fritillária tessellàta,* Gray's Natural Arrangement of British Plants, v. ii. p. 174.—Loudon's Magazine of Natural History, v. i. p. 289. f. 153.—*Fritillária variegàta,* Johnson's Gerarde, 149.

LOCALITIES.—Moist meadows and pastures, principally in the southern parts of ENGLAND.—*Oxfordshire;* Abundant in Magdalen College Meadow, and Cowley Meadows near Oxford, both the purple and the white varieties. W. B.—*Berkshire;* Meadows between Kennington and Oxford. W. B. Meadows about Burghfield Bridge, near Reading: Mr. FARDON, in Turner and Dillwyn's Botanist's Guide.—*Bedfordshire;* At Bromham: Rev. C. Abbot, in Flora Bedfordiensis.—*Buckinghamshire;* Peat-field near Dorney: Mr. GOTOBED.—*Cambridgeshire;* In some closes at Westhoe, near Linton: Rev. R. RELHAN, in Flora Cantabrigiensis.—*Cumberland;* About Keswick: Mr. HUTTON, in Botanist's Guide.—*Dorsetshire;* In the wood on the left hand

---

Fig. 1. A Petal, to show the Nectary.—Fig. 2. Stamens.—Fig. 3. Germen, Style, and Stigma.

---

* From *fritillus,* a *dice-box;* which the form of the corolla may be supposed to resemble. WITHERING.—"Movet arma fritillo." JUVENAL.

† From its chequered appearance, not unlike that of a chess-board.

between Frittleford and Sturminster Newton? Dr. Pulteney, in Bot. Guide.—*Leicestershire;* Near Leicester: Dr. Arnold.—*Middlesex;* "In Mawde Fields near Rislip Common, plentifully, where they have been observed near 60 years:" Blackstone, in Specimen Botanicum, (1746), p. 23. Enfield: Mr. Hudson, in Flora Anglica. Meadows at Totteridge: Rev. J. Davies, in Bot. Guide.—*Norfolk;* In a field called the Seven Acres, and the adjoining ones, by the side of Mendham long lane, near Harleston, where it also varies with a white flower: Rev. H. Tilney.—*Staffordshire;* In a meadow near Blymhill, plentifully: Mr. Dickenson, in Bot. Guide. Meadows on the right hand side of the road leading from Wolesely Bridge to Stafford: Dr. Withering.—*Suffolk;* Meadows at Laxfield, near the Church: Mr. Davy, in Bot. Guide. Between Laxfield and Stirrup-street: Mr. Woodward, ibid. At Little Stonham, a troublesome weed: Mrs. Copeold. Meadow at Hawsted: Sir T. G. Cullum, ibid.—*Surrey;* Meadows near the Thames between Mortlake and Kew: Mr. Hudson, and Mr. W. Pamplin, jun.—*Warwickshire;* Wroxall Field: Mr. W. G. Perry, in Purton's Midland Flora.

Perennial.—Flowers in April and May.

Root, a small, depressed, roundish bulb, throwing out numerous fibres from beneath. *Stem* from 6 to 12, or 18 inches high; round, smooth, leafy, quite simple, drooping at the top. *Leaves* alternate, half embracing the stem, round on the under, and channelled on the upper side, pointed, somewhat glaucous. *Flowers* terminal, pendulous, regularly chequered with pale and dark purple, sometimes white. *Petals* oval, their points turned inwards. *Nectary*, a strap-shaped cavity at the base of each petal. *Capsule* obovate, blunt, 6-furrowed, upright.

It varies with white flowers, and sometimes with two flowers on a stem. Both these varieties, as well as others of different shades of purple, are common about Oxford. Dr. Withering observed the white flowered variety in great abundance in a meadow on the right of the road leading from Wolesely-bridge to Stafford, not a quarter of a mile from the bridge; and Mr. W. G. Perry found the same variety in a meadow by the road-side opposite to Wroxall Abbey, Warwickshire.

There are few plants that are greater favourites with the Horticulturist and the Florist than the various exotic species and varieties which compose the Lilia'ceæ. The plants of this *Natural Order* are all monocotyledonous (having only one seed-lobe), and mostly herbaceous, with scaly, or solid, bulbiferous (seldom fibrous) roots. Their leaves are spear-shaped, or heart-shaped, with parallel veins. The flowers are sometimes solitary and terminal, sometimes in simple spikes, or branched racemes, often large and handsome, and frequently variegated with the most lovely colours. The *perian'thium* (*calyx* and *corolla* confounded) is inferior, coloured, and regular, of 6 pieces (petals of Linnæus), which occasionally cohere at the base, so as to form a tube; these 6 pieces are disposed in two rows, three being external, and three internal; the former are, by some Botanists, called *sepals*, the latter *petals*. The *stamens* are 6 in number, inserted into the pieces of the perian'thium. The *ovary (germen)* has 3 cells, and 3 prominent ribs, each cell contains many ovules (unripe seeds). The *style* is simple or wanting; and the *stigma* is simple or 3-lobed. The *fruit* is a 3-celled, 3-valved, many-seeded capsule, with a loculicidal dehiscence, (i.e. the dissepiments, or partitions, are situated on the middle of the inner surface of the valves). The *seeds* are flat, and packed one upon the other in 1 or 2 rows; they have a spongy, dilated, often winged integument; their *albumen* is fleshy, and contains the *embryo*, the radical of which is turned towards the *hilum* or *scar*. This order contains only two British Genera, namely, Fritilla'ria and Tu'lipa.



TULÍPA SYLVÉSTRIS.– *WILD TULIP* 4

TU'LIPA*.

Linnean Class and Order. HEXA'NDRIA, MONOGY'NIA.

Natural Order. LILIA'CEÆ†, *Juss.*—Lindl. Synop. p. 266; Introduct. to the Nat. Syst. of Bot. p. 279.—Rich. by Macgilliv. p. 403.—TULIPA'CEÆ, *De Candolle.*—HEMEROCALLI'DEÆ, Dr. R. BROWN.

GEN. CHAR. *Calyx* none. *Corolla (Perianthium*, see p. 33.) inferior, bell-shaped, of 6 egg-shaped, concave, upright petals, without *nectaries (honey-pores)* at the base. *Filaments* 6, (fig. 1.) awl-shaped, flattish, upright, very short. *Anthers* oblong, four-cornered, upright, distant. *Germen* (fig. 2.) superior, large, oblong, with 3 more or less blunt angles. *Style* none. *Stigma* either three-cornered (triangular) or three-lobed, permanent. *Capsule* triangular, with 3 intermediate furrows, 3 cells, and 3 valves, which are fringed at the edges, and have central partitions. *Seeds* numerous, flat, inversely egg-shaped, crowded one above another, in two rows.

The naked, inferior, bell-shaped corolla, of 6 petals, which have no nectaries, the sessile stigma, and the flat seeds, will distinguish this from other genera in the same class and order.

One species British.

TU'LIPA SYLVE'STRIS. Wild Tulip.

SPEC. CHAR. Stem 1-flowered, a little drooping. Leaves spear-shaped. Stigma triangular, abrupt. Stamens hairy at the base.

Engl. Bot. t. 63.—Hooker's Flora Londinensis, t. 19.—Sm. Fl. Brit. v. i. p. 361. Engl. Fl. v. ii. p. 140.—With. Bot. Arr. (7th ed.) v. ii. p. 425.—Lindl. Syn. p. 266.—Hook. Br. Fl. p. 159.—Gray's Nat. Arr. v. ii. p. 173.—Abbot's Fl. Bedf. p. 75.—Purt. Midl. Fl. v. i. p. 171. v. iii. p. 351.—Hooker's Flora Scotica, p. 101.—Walker's Flora of Oxfordshire, p. 92.—*Tulipa bononiensis*, Johnson's Gerarde, p. 138.

LOCALITIES.—In old chalk-pits in some parts of ENGLAND, and in SCOTLAND.—Not common.—*Oxfordshire;* near Bullington, and by the side of the walk round Christ Church Meadow, Oxford: Dr. WILLIAMS, Regius Professor of Botany.—*Berks;* Besselsleigh, near Oxford: Miss HOSKINS.—*Bedfordshire;* Whipsnade, on the borders of Hertfordshire: Rev. D. JENKS, in Fl. Bedf.—*Dorsetshire;* In the hollow way, near the church at Melbury, near Shaftsbury: Dr. PULTENEY, in Bot. Guide.—*Durham;* near Blackwell: Mr. WINCH, in With. Bot. Arr.—*Gloucestershire;* In Bitton meadows, opposite the church: Rev. H. T. ELLICOMBE, ibid.—*Middlesex;* Top of Muswell Hill: Mr. J. WOONS, jun. in With. Bot. Arr.—*Norfolk;* In old chalk-pits near Norwich: Mr. ROSE, in Sm. Fl. Brit.—*Suffolk;* Chalk-pit near St. Peter's Barn, Risby Gate Street, Bury: Sir T. G. CULLUM, Bart. in Bot. Guide.—*Surrey;* At Wimbledon: Mr. W. PAMPLIN, jun. Abundant near Leatherhead: Mr. G. PENNY, A. L. S.—*Warwickshire;* About Allesley; and in meadows by the Bourne at Shustock: Rev. W. T. BREE, in Purt. Mid. Fl.—*Worcestershire;* Among the limestone quarries on Malvern Hills: J. T. GOODMAN, in Loudon's Magazine of Natural History, v. iii. p. 161.—SCOTLAND; Near Hamilton and Brechin, and in an old quarry at Bennie Craig, Firth of Forth: Mr. J. T. MACKAY, in Hook. Br. Fl.

Perennial.—Flowers in April.

Fig. 1. Stamens, Germen, and Stigma.—Fig. 2. Germen.—Fig. 3. Section of Germen.

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* From *toliban*, the Persian name for a *turban*, the shape and colour of the flower somewhat resembling that kind of Eastern head-dress.

† See p. 1.

Bulb egg-shaped, tumid on one side, brown. *Stem* simple, nearly upright, about a foot high, round, smooth, 1-flowered; leafy about the middle, tapering at the base. *Leaves* alternate, clasping the stem, spear-shaped, slightly keeled, smooth, rather glaucous, tapering at each end. *Flower* somewhat drooping, sweet scented, bright yellow; externally greenish. *Filaments* yellow, flatted, surrounded with a fringe of short white hairs at the bottom. *Anthers* and *Pollen* yellow. *Stigma* sharply triangular, blunt; not dilated, nor downy, like the garden Tulip.

Túlipa Sylvéstris is specifically distinguished from the common garden Tulip *(T. Gesneriana)* by the acute petals, hairy at the point and base; and from that and every other species, at present known, by the flowers being drooping before they expand. The bulbs send out lateral shoots, of a considerable length, forming new bulbs at the extremity; this character, Mr. KER informs us, (see Bot. Mag. t. 1202.) will distinguish *Túlipa sylvéstris* from *T. celsiána* and *T. biflórus;* both of which produce their offsets in a perpendicular direction. See Hook. Fl. Lond. and Sm. Engl. Fl.

This is frequently cultivated in gardens under the name of sweet-scented Florentine Tulip, and is much admired for the elegance of its flowers, its gracefully pendent buds, and its agreeable and delicate perfume. A variety with double flowers is not uncommon in gardens.—LINNÆUS remarks, that the flower of *Túlipa Sylvéstris* does not begin to open till about 10 o'clock in the morning, whereas the garden Tulip opens before 8. He reports, from PARKINSON, that the roots boiled, and eaten with oil and pepper, are palatable and wholesome; whereas HALLER says they are acrid and cause vomiting.

If, in the Winter, a bulb of the Tulip is cautiously divided in a vertical direction, and the few concentric coats of which it consists are carefully removed, the whole flower of the next Summer's Tulip, with its petals, stamens, and pistil, may be very distinctly seen with the help of a common pocket magnifying glass, or even by the naked eye. This has not escaped the observation of one of our favourite Poets.

"Here lies a bulb, the child of earth,
Buried alive beneath the clod,
Ere long to spring, by second birth,
A new and nobler work of God.

'Tis said, that microscopic power
Might through its swaddling folds descry
The infant image of the flower,
Too exquisite to meet the eye.

This, vernal suns and rains will swell,
Till from its dark abode it peep,
Like Venus rising from her shell,
Amidst the spring-tide of the deep.

Two shapely leaves will first unfold,
Then on a smooth elastic stem,
The verdant bud shall turn to gold,
And open in a diadem.

Not one of Flora's brilliant race,
A form more perfect can display,—
Art could not feign more simple grace,
Nor Nature take a tint away."—MONTGOMERY.

3



GEUM-RIVALE *WATER-AVENS* 2

(3.)

GE'UM*.

Linnean Class and Order. Icosa'ndria, Polygy'nia.

Natural Order. Rosa'ceæ, *Juss.*—Lindl. Syn. p. 88; Introd. to Nat. Syst. p. 81.—Rich. by Macgilliv. p. 528.

Gen. Char. *Calyx* (fig. 1.) inferior, of 1 leaf, permanent, 5-cleft, with 5 external bracteolæ (small leaflets, situated on the calyx, and alternate with its segments). *Petals* 5, rounded, undivided or cloven, attached by their claws to the rim of the calyx opposite to the bracteolæ, about as long as the calyx. *Filaments* numerous, awl-shaped, from the rim of the calyx, shorter than the corolla. *Anthers* short, roundish, of 2 cells. *Germens* (figs. 2 & 4.) superior, egg-shaped, compressed, numerous, forming a round head. *Styles* long, terminal, with a joint above the middle; lower part permanent, upper deciduous. *Stigmas* simple. *Seeds* egg-shaped, compressed, hairy, each with a long terminal tail (fig. 4.), formed of the hardened lower part of the style, and terminating in a hook. *Receptacle* (fig. 3.) cylindrical, dry, hairy.

The bent hooked tail of the seeds, and the cylindrical, dry, hairy receptacle, will distinguish this from other genera in the same class and order.

Two species British.

GE'UM RIVA'LE. Water Avens.

Spec. Char. Root-leaves interruptedly pinnate, somewhat lyrate. Stipulas egg-shaped, pointed, cut. Flowers drooping. Styles hairy above the curvature.

Engl. Bot. t. 106.—Huds. Fl. Angl. (2nd ed.) p. 226.—Sm. Fl. Brit. v. ii. p. 554.—Engl. Fl. v. ii. p. 430.—With. (7th ed.) v. iii. p. 638.—Lindl. Syn. p. 98.—Hook. Br. Fl. p. 254.—Gray's Nat. Arr. v. ii. p. 579.—Lightfoot's Fl. Scot. v. i. p. 274.—Sibth. Fl. Oxon. p. 163.—Abbot's Fl. Bedf. p. 114.—Purt. Midl. Fl. v. i. p. 241. v. iii. p. 361.—Relh. Fl. Cant. (3rd ed.) p. 206.—Hook. Fl. Scot. p. 165.—Grev. Fl. Edin. p. 118.—Walker's Fl. of Oxf. p. 146.—*Caryophyllata montana purpurea*, Ray's Synopsis, p. 253.—Johnson's Gerarde, p. 994.

Localities.—Moist meadows and woods.—Not unfrequent in the North of England; in Scotland, and in Wales. Withering.—*Oxfordshire;* Marston, and Noke: Dr. Sibthorp. In a copse near Elsfield, and in Calves' Close, at Headington, near Oxford: Rev. Rd. Walker.—*Berkshire;* Banks of the Kennet, near Newbury: Mr. Gotobed. In Theale meadows near Reading: Rev. Rd. Walker. Side of the Canal, about a mile from Hungerford; June, 1833: Mr. A. R. Burt.—*Bedfordshire;* Putnoe Wood: Rev. C. Abbot.—*Cambridgeshire;* Pastures near Wood Ditton, Hall, Catlidge, and Wood Ditton Park Woods: Rev. R. Relhan. Shady Camps: Rev. Dr. Chevallier, in Fl. Cant.—*Cheshire;* Frequent in the Wems, a marshy place near Stayley Hall: Mr. Bradbury, in Bot. Guide.—*Cumberland;* Kirtland, and Brampton: Mr. Hutchinson. Road-side between Penrith and Keswick: Mr. Fardon, Bot. Guide.—*Derbyshire;* Chee Tor; Hassop; Pinxton: Mr. Coke. About Hayfield: Mr. L. Howard. Dovedale: Mr. J. Woods, jun. Beard's Wood near Low Leighton: Mr. O. Sims, in Bot. Guide. Abundant about

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Fig. 1. Section of the Calyx, showing the situation of the Stamens.—Fig. 2. Receptacle and Seeds.—Fig. 3. Cylindrical, dry, hairy Receptacle, with seeds removed.—Fig. 4. A Seed a little magnified.

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* From *geuo*, Gr. *to give out a flavour;* from the agreeable aromatic quality of the roots. Withering.

Matlock: N. B. Young, Esq. New College—*Dorsetshire;* At Frome near Evershot, common: Rev. G. Crabbe, in Bot. Guide.—*Durham;* Frequent near Darlington: Mr. Robson —*Hampshire;* About Andover: Mr. Borrer.—*Herefordshire;* Northern parts of the county: Mr. Duncumb.—*Lincolnshire;* Horncastle: Rev. R. Relhan.—*Northumberland;* Scott's Wood, and every wood near Newcastle: Mr. Winch.—*Norfolk;* Osier Ground at Thorpe, and in Woolverton Wood: Dr. Martyn. Meadows between Norwich and Thorpe; Prior's Wood between Downham and Lynn: Dr. Smith. Near Hingham: Mr. Woodward. Fincham, and Marham: Rev. R. Forby. Old Buckenham: Mr. Jas. Turner.—*Nottinghamshire;* In the close by Asply House, along the wood-side, and in other places about Nottingham: Deering.—*Shropshire;* Wem ddû near Llanymenech; and Bagley Brook, Shrewsbury: Dr. Evans. Faintree: Miss Purton, in Midl. Fl. Maulbrook, near Walton: Hall.—*Somersetshire;* By the road-side on the left hand as you go from Frome to Shepton, about a quarter of a mile beyond Brewton road-gate: Mr. Sole.—*Staffordshire;* At Ilam: Mr. J. Woods, jun. Between Walsall and Aldridge: Rev. W. S. Rufford, in Purt. Midl. Fl.—*Suffolk;* About Bury: Sir T. G. Cullum.—*Sussex;* In a bog near Chichester: Dr. Martyn.—*Warwickshire;* Arley Wood, &c.: Rev. W. T. Bree, in Loud. Mag. Nat. Hist. v. iii. p. 165.—*Wilts;* Sides of the River Avon near Salisbury: Dr. Maton.—*Worcestershire;* About Abberley: Mr. Hickman, in Purt. Midl. Fl.—*Yorkshire;* In moist woods about C. Howard, common: Teesdale. About Leeds; near Skipton, in great abundance: Rev. W. Woon. Angram Wood, near Coxwold: Rev. Archdeacon Pierson. All wet places about Copgrove: Rev. J. Dalton, in Bot. Guide.—WALES. *Anglesea;* Lligwy-wood: Rev. H. Davies.—*Brecknockshire;* Usgoed Hendry: Mr. J. Woods, jun.—*Denbighshire;* Wood below Garn: Mr. Griffith. Among the rocks of the Waterfall called Rhaiadr. Mawr between Conway and Llanrwst: Mr. Bingley.—*Flintshire;* Frequent about Mold: Waring.—*Glamorganshire;* Usgoed Eynon Garn: Mr. J. Woods, jun. About Pont Nedd. Vachn: L. W. Dillwynn, Esq.—Common in SCOTLAND: Lightfoot, in Fl. Scot.—Habbie's How and Newbattle Woods, near Edinburgh: Dr. Graham.—Rosslyn, Auchindenny, and Arniston Woods: Dr. Greville, in Fl. Edin.—IRELAND. *Queen's County;* In Sir R. Staple's woods.—*County of Kerry;* Brandon Mountain.—*County of Cork;* Priest's Leap Mountain.—*County of Dublin;* In Woodlands: Mr. J. T. Mackay, in Catal. of Pl. of Ireland.

Perennial.—Flowers in May and June.

Root somewhat woody, horizontal; reddish, astringent, aromatic, smelling like cloves. *Herbage* hairy. *Stem* 8 to 12 inches high, slightly panicled, otherwise simple, round, purplish in the upper part. *Root-leaves* stalked, their terminal lobe very large, lobed, and sharply crenate. *Stem-leaves* stalked, ternate, or 3-lobed. *Stipulas* of the latter egg-shaped, pointed, cut, purplish. *Flowers* drooping, becoming upright as the seeds ripen. *Calyx* flat at the base, purplish brown. *Petals* upright, of a tawny red colour, streaked. *Germen*, and lowest part of the *Style*, clothed with long hairs, above which are some shorter and glandular ones; but a considerable space under the curvature is smooth; above the curvature is a rather long, hairy portion, which falls off with the *Stigma*, leaving a hook behind. Varies by cultivation with double, and sometimes with proliferous flowers †.

† The powdered root is used by the Canadians to cure tertian agues.





VIOLA-CANINA

(4.)

VI'OLA*.

Linnean Class and Order. PENTA'NDRIA, MONOGY'NIA.

Natural Order. VIOLA'CEÆ, *Juss.*—Lindl. Syn. p. 35; Introduction to Nat. Syst. p. 146.—VIOLARIE'Æ. *De Candolle.*—Rich. by Macgilliv. p. 505.

GEN. CHAR. *Calyx* inferior, of 5 permanent, oblong, upright, pointed, equal sepals (leaves), which are elongated at the base. *Corolla* irregular, of 5 unequal petals, the uppermost broadest, slightly cleft, and turned downwards, terminating at the base in a horn-shaped, blunt nectary, projecting between the sepals; two lateral petals opposite, equal, blunt, straight; two lowermost equal, larger, and turned upwards (the position of the flower being reversed). *Filaments* very small, the two adjoining the uppermost petal have 2 combined spurs, (fig. 1.) which enter the nectary. *Anthers* broad, converging (approaching each other), scarcely connected, blunt, each terminating in a membranous point. *Germen* superior, roundish. *Style* thread-shaped, extending beyond the anthers. *Stigma* oblique. *Capsule* (fig. 2.) egg-shaped, three-edged, blunt, with 1 cell and 3 rigid, finally reflexed valves, (fig. 3). *Seeds* many, egg-shaped, polished, attached to the linear central *receptacle (placenta)* of each valve.

The 5-leaved calyx, irregular, spurred corolla, and 1-celled capsule of 3 valves, will distinguish this from all other genera with an inferior polypetalous corolla, in the same class and order.

Eight species British; all of which have their flowers reversed, or inverted.

VI'OLA CANI'NA. Dog's Violet.

SPEC. CHAR. Stem, as it attains full growth, ascending, channelled. Leaves heart-shaped, somewhat pointed. Stipulas serrated. Bracteas awl-shaped, entire. Calyx acute.

Engl. Bot. t. 620.—Curt. Fl. Lond. t. 108.—Huds. Fl. Angl. p. 379.—Sm. Fl. Brit. v. i. p. 246. Eng. Fl. v. i. p. 303.—With. (7th ed.) v. ii. p. 328.—Lindl. Syn. p. 35.—Hook. Brit. Fl. p. 106.—Gray's Nat. Arr. v. ii. p. 669.—Lightf. Fl. Scot. v. i. p. 508.—Sibth. Fl. Oxon. p. 83.—Abbot's Fl. Bedf. p. 190.—Purt. Midl. Fl. v. ii. p. 418.—Relh. Fl. Cant. (3rd ed.) p. 93.—Hook. Fl. Scot. p. 77.—Grev. Fl. Edin. p. 52.—Walk. Fl. of Oxf. p. 60.—Mackay's Catal. of the Plants found in Ireland, p. 23.—*Viola Martia inodora sylvestris*, Ray's Syn. p. 364.—*Viola canina sylvestris*, Johnson's Gerarde, p. 851.

LOCALITIES.—In woods, thickets, hedge-banks, and heathy ground.—Very common.

Perennial.—Flowers in April and May.

Root somewhat woody. *Stem* at first none, or very short; afterwards rising to the height of from 6 to 8, or 10 inches; it is some-

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Fig. 1. The five converging Anthers and two Spurs.—Fig. 2. The Calyx, unripe Capsule, and Style.—Fig. 3. Ripe Capsule, showing the three Valves, and the Seeds.

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* "According to some, from *Ion*, (being the food of the metamorphosed *Io*,) the Greek appellation.—'*A vi olendi*,' *(from the power of its scent,)* according to others.—And again, 'quod juxta *vias* nasci amat;' because it loves to grow by way-sides, where it introduces itself to the notice of passengers." Dr. HOOKER.

what zigzag, leafy, smooth, channelled on one side, rounded on the other, alternately. *Leaves* heart-shaped, more or less pointed, nearly smooth, crenate (scolloped). *Stipulas* rather deeply toothed, or fringed. *Flower-stalks* square, upright; the earlier ones radical (growing from the root), the rest cauline (growing from the stem), axillary, solitary, bearing two narrow, entire, awl-shaped *Bractcas* in the upper part, and one nodding; blue, (sometimes white,) scentless† *Flower*, with purple lines in the mouth, and a greenish white, abrupt spur. *Calyx-leaves* strap-spear-shaped. *Anthers* slightly cohering, and tipped with an orange-coloured membrane. *Capsule* oblong, its valves compressed‡.

The Natural Order VIOLA'CEÆ consists of polypetalous (having more than one petal), dicotyledonous (having two seed-lobes) herbs or shrubs, with simple, usually alternate, rarely opposite leaves, each leaf furnished with a pair of permanent stipulas. The *calyx* is composed of 5 permanent *sepals*, with an imbricate æstivation, usually elongated at the base. The *corolla*, which is inferior, consists of 5 equal or unequal *pctals*, usually with an obliquely convolute æstivation, one of them generally spurred. The *stamens* are 5 in number, either alternate with the petals, or, as is occasionally the case, opposite to them, inserted on an hypogynous (inferior) disk, often unequal; *anthers* of 2 lobes, bursting inwards, either separate or cohering, and lying close upon the ovarium (germen); the *filamcnts* are dilated, and lengthened out beyond the anthers; two of which, in the irregular flowers, are generally furnished with an appendage in the form of a recurved horn at their base, and is prolonged into the spur. The *ovarium (germen)* is 1-celled, and many-seeded, or rarely 1-seeded, with 3 parietal *placentæ (receptacle of the seeds)*, which are opposite to the 3 outer sepals. The *style* is single, and usually declinate (bent), with an oblique hooked *stigma*. The fruit is a *capsule* of 3 valves, each valve bearing a placenta or trophosperm (receptacle of the seeds) on the middle of its inner surface. The *seeds* contain an upright *embryo (corculum or little heart)* in a fleshy *albumen* or *endosperm*, *(a white, farinaceous fleshy substance, destined to nourish the embryo of the seed)*.

VI'OLA is the only British Genus in this order.

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† This deficiency in the Dog's Violet is noticed by the Poet in the following lines—

"Deceitful plant! from thee no odours rise,
Perfume the air, or scent the mossy glade,
Altho' thy blossoms wear the modest guise
Of her§, the sweetest offspring of the shade.

Yet not like her's, still shunning to be seen,
And by their fragrant breath, alone, betray'd,
Veiled in the vesture of a scantier green,
To every gazer are thy flowers displayed.

Thus Virtue's garb Hypocrisy may wear,
Kneel as she kneels, or give as she has given;
But, ah! no meek retiring worth is there,
No incense of the heart exhales to heaven!"

Chauncy Hare Townsend.

‡ Root emetic and cathartic. WOODVILLE.—§ The sweet violet, *Viola odorata*.





POLÝGONUM-BISTÓRTA. *BISTORT or SNAKE-WEED.* 2

POLY'GONUM*.

Linnean Class and Order. OCTA'NDRIA, TRIGY'NIA.

Natural Order. POLYGO'NEÆ. *Juss.*—Lindl. Syn. p. 209; Introd. to Nat. Syst. p. 169.—Rich. by Macgilliv. p. 424.

GEN. CHAR. *Calyx* (fig. 1.) monosepalous (of one sepal or leaf), inferior, turbinate (top-shaped), more or less coloured, permanent, deeply divided into 5 egg-shaped, blunt, segments. *Corolla* none. *Filaments* from 5 to 8, awl-shaped. *Anthers* roundish, incumbent (fixed to the side of the filament). *Germen* (fig. 2.) superior, roundish, either triangular or compressed. *Styles* generally 3, in those with compressed Germens only 2, thread-shaped, in some species partly combined. *Stigmas* sessile. *Seed-vessel* none, except the closed calyx or perianthium. *Seed* (fig. 3.) solitary, either triangular or compressed, pointed. *Embryo (corculum,* or *little heart)* enveloped in a farinaceous *albumen* or *endosperm.* (See *Viola Canina*, p. 4.)

The single, inferior, coloured, 5-parted *perianthium*, and solitary naked *seed*, will distinguish this genus from others in the same class.

Ten species British.

POLY'GONUM BISTOR'TA†. Great Bistort, or Snake-weed.

SPEC. CHAR. Stem simple, bearing one spike of flowers. Leaves egg-shaped, wavy, running down into the footstalks.

Engl. Bot. t. 509.—Curt. Fl. Lond. t. 22.—Woodv. Med. Bot. v. i. p. 100. t. 34.—Huds. Fl. Angl. (2nd ed.) p. 168.—Sm. Fl. Brit. v. i. p. 427. Engl. Fl. v. ii. p. 236.—With. (7th ed.) v. ii. p. 497.—Lindl. Syn. p. 212.—Hook. Brit. Fl. p. 182.—Lightf. Fl. Scot. v. i. p. 206.—Sibth. Fl. Oxon. p. 128.—Abb. Fl. Bedf. p. 88.—Purt. Midl. Fl. v. i. p. 197.—Relh. Fl. Cant. (3rd ed.) p. 163.—Hook. Fl. Scot. p. 120.—Grev. Fl. Edin. p. 89.—Rev. G. E. Smith's Pl. of S. Kent, p. 24.—Jones and Kingston's Flora Devoniensis, pp. 69 & 137.—Walk. Fl. of Oxf. p. 114.—Mack. Catal. of Pl. of Ireland, p. 38.—Perry's Plantæ Varvicenses Selectæ, p. 36.—*Bistorta major*, Ray's Syn. p. 147.—Johnson's Gerarde, p. 399.—Blacks. Spec. Bot. p. 7.—Gray's Nat. Arr. v. ii. p. 267.

LOCALITIES.—Moist meadows and fertile pastures; most common in the North.—*Oxfordshire;* Near Gosford Bridge: Dr. SIBTHORP. Observed in the same place by Mr. T. W. WEAVER, June 14, 1832. On the banks of the Isis beyond Iffley, near Oxford: Dr. SIBTHORP. In Hall's Close at Holton, near Wheatley: Mr. JOHN LOVEGROVE.—*Berks;* In Oseney Meadow, between the Mill and Ferry Hinksey, near Oxford: Mr. E. B. HEWLETT.—*Bedfordsh.* Hyde Mill, Luton, and Thurleigh: Rev. C. ABBOT.—*Bucks;* Hedge in a wet meadow near Chippenham: Mr. GOTOBED.—*Cambridgeshire;* Closes near How's House, Whitwell, Hinton, and Shelford: Rev. R. RELHAN.—*Cheshire;* Near Stockport: Mr. G. HOLME.—*Derbyshire;* Near Derby: Mr. WHATELY. S. Normanton; Crick; in a meadow by Mr. Bennett's, Mackworth: Mr. PILKINGTON. At Ashbourn: Mr. J. WOODS, jun.—*Devon;* In meadows at Holwell, near Manaton, and at Widdecombe-in-the-Moor: Fl. Devoniensis.—*Dorsetshire;* About Sturminster, Shelborne, and Moreton: Dr. PULTENEY.—*Durham;* Wood below Gateshead: Mr. WINCH. Near Egleston: Rev. J. HARRIMAN.—*Essex;* River-side at Broomfield: Mr. W. CHRISTY.—Field behind Herham Vicarage: Mr. E. FORSTER, jun.—By the side of the Chelmer, about two miles above Chelmsford: Loud. Mag. of Nat.

Fig. 1. Calyx and Stamens.—Fig. 2. Germen and Styles.—Fig. 3. Seed.—Fig. 4. Section of ditto.—Fig. 5. A Segment of the Calyx, showing the nectariferous gland at the base.

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* From *polus, many;* and *gonu,* a *knee* or *joint:* from the numerous joints of the stem. Dr. HOOKER. † From the tortuous root.

Hist. v. iv. p. 446.—*Herefordshire ;* In the Northern parts of the County: Mr. Duncumb.—*Herts ;* By the river-side at Rickmansworth: Dr. Martyn In a marshy meadow near Redburn: Mr. E. Forster, jun.—*Kent ;* In a field to the right upon Stonestreet, about eight miles from Hythe: Mr. W. Fagg, in Sm. Pl. of S. Kent.—*Leicestershire ;* Moist closes about Humberston and Evington, near Leicester: Dr. Pulteney.—*Middlesex ;* Meadow by Bishop's Wood near Hampstead: Mr. Curtis. River-side about Uxbridge: Blackstone. Top of Muswell Hill: Mr. J. Woods, jun.—*Norfolk ;* At Heigham near Norwich: Mrs. Kett, in Sm. Fl. Brit. Near Brome: Mr. Woodward.—*Northamptonshire ;* Meadows near the Ouse, not far from Cosgrove: Morton.—*Northumberland ;* Between Dunston and Darwenthaugh: Mr. Winch.—*Nottinghamshire ;* In a close between the Leen and Linton churchyard: Deering.—*Shropshire ;* Near the Mill at Meol; Sutton near Shrewsbury, four miles from Oswestry on the Welch Pool road: Mr. Aikin.—*Somersetshire ;* Near Yeovil: Loud. Mag. Nat. Hist. v. iii. p. 174.—*Staffordshire ;* Near the Infirmary, Stafford: Dr. Withering.—*Suffolk ;* Rendham, in a meadow next the Parsonage; North Glemham in one next the road: Rev. G. Crabb. Shipmeadow: Mr. Woodward. Low meadows near the Pest House, Bury: Sir T. G. Cullum.—*Surrey ;* Battersea Meadows: Merret and Dr. Smith.—*Sussex ;* Near Midhurst: Mr. Borrer.—*Warwickshire ;* Plentiful in a meadow at Tamworth and Fasely: Ray. Near Packinton: Countess of Aylesford. In a field at Oversley: Mr. Purton. Allesley: Rev. W. T. Bree. Garlic Meadow near Penn's Mill, Erdington: Dr. Withering.—*Worcestershire ;* Near Bromsgrove, on the side of the Kidderminster road: Mr. Purton. Ham Green, near Mathon and Martley: Mr. Ballard. Moist meadows to the North of Malvern Hills: Mr. E. Lees.—*Yorkshire ;* Near Rotherham: Mr. L. Langley. About Sheffield, Halifax, and Bradford: Ray. Near C. Howard: Teesdale. Near Coxwold, and Newburgh: Rev. Archd. Pierson. About Leeds: Rev. W. Wood. Mackershaw Wood, and meadows near Ripon: Mr. Brunton. Near North Lees; Magdale Close above Tanfield: Rev. J. Dalton. Meadow adjoining Fountains Abbey: Mr. D. Turner.—WALES. *Anglesea ;* Near Llanfaes Church, and on Treffos demesne.—*Denbighshire ;* In a trench without the western wall of the Castle of Ruthin: Waring.—*Flintshire ;* Moist meadows in the front of Plâs On, in the parish of Mold: Mr. Griffith.—SCOTLAND. About Inverary: Mr. Lightfoot. Marshy ground at Roseburn, near Coltbridge, and banks of the North Esk, below Hevock Mill: Mr. Maughan. Waste ground, Kilbride; Glen near Castlemilk; and banks of the Kilvin at Gairbraid: Mr. Hopkirk. Below Greenock, Bute, and Arran, plentiful: Mr. Murray. Rosslyn Woods: Mr. Arnott.—IRELAND. Meadows near Bantry: Miss Hutchins. In a field at Ashtown near Monkstown: Capt. Pratt.

Perennial.—Flowers in May and June.

Root large, more or less bent or crooked, somewhat creeping, and furnished with numerous fibres. *Stems* from 1 to 2 feet high, simple, upright, round, striated, smooth, leafy. *Leaves* smooth, egg-shaped, wavy, bluntish; glaucous beneath; the radical ones on long winged *footstalks*. *Footstalks* of the stem-leaves tubular and sheathing, each crowned with a membranous jagged, withered *stipula*. *Spike* terminal, upright, round, dense, many-flowered. *Partial-stalks* simple, very slender, with short brown *bracteas* at the base. *Calyx* rose-coloured, deeply 5-cleft, blunt, spreading, with nectariferous glands at the base, (fig. 5). *Stamens* 8, longer than the calyx. *Styles* quite distinct. *Stigmas* small, blunt. *Seed* triangular, dark brown, shining‡.

‡ Root one of the strongest vegetable astringents. Young shoots sometimes boiled for the table.—M. Hemstaedt, of Berlin, has discovered that this plant will tan leather effectually, and with a much smaller quantity than is necessary of oak bark. Withering.





PÁRIS-QUADRIFÓLIA. *HERB-PARIS?*

PA'RIS*.

Linnean Class and Order. OCTA'NDRIA†, MONOGY'NIA.

Natural Order. SMILA'CEÆ. *Dr. R. Brown.*—Lindl. Syn. p. 271; Introd. to Nat. Syst. p. 277.—ASPARAGI. *Juss.* Gen. Plant. p. 40.—Sm. Gr. Bot. p. 71.—ASPARAGI'NEÆ, Tribe PARI'DEÆ.—Rich. by Macgilliv. p. 402.

GEN. CHAR. *Calyx* inferior, of 4 spear-shaped, pointed, spreading, permanent *sepals (leaves)*, the length of the petals. *Corolla* of 4 awl-shaped, spreading, equal, permanent *petals*, which are similar to the sepals, but narrower and alternate with them. *Filaments* (fig. 1.) 8, awl-shaped, rather short below the *anthers*, which are long, strap-shaped, of 2 cells, united by their backs to the middle part of the filaments, whose points rise above them. *Germen* superior, roundish, with 4 furrows. *Styles* 4, (fig. 2.), spreading, shorter than the stamens. *Stigmas* oblong, simple, downy on the upper side. *Berry* (fig. 2.) nearly globular, with 4 blunt angles, and 4 cells (fig. 3). *Seeds* several, globular, attached, in 2 rows, to a central *receptacle (placenta)*.

Distinguished from other genera of the same class and order by a calyx of 4 sepals, a corolla of 4 awl-shaped petals, and a berry of 4, many-seeded cells.

One species British.

PA'RIS QUADRIFO'LIA. Herb Paris. True-love. One-berry.

SPEC. CHAR. Leaves egg-shaped, generally 4 in a whorl, at the top of a simple stem. Flower solitary.

Eng. Bot. t. 7.—Redout. Liliac. t. 226.—Huds. Fl. Angl. (2nd ed.) p. 172.—Sm. Fl. Brit. v. i. p. 431. Engl. Fl. v. ii. p. 241.—With. (7th ed.) v. ii. p. 500.—Lind. Syn. p. 271.—Hook. Brit. Fl. p. 184.—Gray's Nat. Arr. v. ii. p. 187.—Lightf. Fl. Scot. v. i. p. 209.—Sibth. Fl. Oxon. p. 131.—Abbot's Fl. Bedf. p. 90.—Purt. Midl. Fl. v. i. p. 201. and v. iii. p. 356.—Relh. Fl. Cant. (3rd ed.) p. 165.—Hook. Fl. Scot p. 122.—Grev. Fl. Edin. p. 91.—Walk. Fl. of Oxf. p. 116.—Rev. G. E. Smith's Plants of South Kent, p. 24.—Mack. Catal. of Pl. Ireland, p. 38.—Professor Henslow, in Loudon's Magazine of Natural History for June, 1832, p. 429.—*Herba Paris*, Ray's Syn. p. 264.—Johnson's Gerarde, p. 405.

LOCALITIES.—In moist shady woods and thickets in many parts of England, and Scotland, but not common.—ENGLAND. *Oxfordshire;* Headington-Wick Copse. In a wood in the parish of Mungewell: J. OGLANDER, Esq. Merton College, 1822. Plentiful in Pinsley Wood near Church Handborough, 1833. Wood near Upper Assington, July, 1833: Mr. E. JENNER, Kensington Gardens, Brighton.—*Berks;* Coppice below Greenham Chapel. Wytham Wood, near Oxford: W. B.—*Bedfordsh.* Woods at Hawnes, and Renhold; and in Clapham Park Wood.—*Bucks;* In a chalk-pit in a wood near Little Missenden Church.—*Cambridgeshire;* Woods at Kingston, Eversden, and Wood Ditton.—*Cheshire;* In a wood near the Bolling; and not far from Seale Moor. Wood in Brinnington, near Stockport. In plantations near Bostock House.—*Cumberland;* Bank Wood, Naworth Woods, and road-side between Hatton Moor and Penrith. Isell Wood, near the river.—*Derbyshire;* Pinxton; Newton Wood. Love-lane near Derby. In Longford Long-lane, in a pit near Dalbury Lees. Rocks opposite Matlock Bath.—*Dorsetsh.* Wood at Turnworth, but sparingly; Hanging Woods at Ashcomb; Broadly and Morgan's Wood,

Fig. 1. Stamens.—Fig. 2. Germen and Styles.—Fig. 3. Section of Seed-vessel, showing the double row of seeds attached to the central receptacle.—Fig. 4. A Stamen magnified.

* Named, it is said, from *par, paris, equal*, on account of the regularity of its leaves and flowers. Dr. HOOKER. † See *Adoxa Moschatéllina* p. 42. *note.*

near Blandford.—*Durham;* Near Egleston. In deep shades near the Gunner's Pool, Eden Dean.—*Essex;* Woods about Henham and Quendon. Cracks Wood, Henham, and Widdington Wood. In a wood near Broomfield, and in the Thrift Wood near Chelmsford.—*Hampsh.* In the Church-litten-Coppice, Selborne.—*Herefordsh.* Northern parts of the county. Woods near Eastnor.—*Huntingtonsh.* In Ripton Woods.—*Kent;* About the middle of Byseing Wood, near Feversham. Woods at Waldershaw. In the orchard at the Elms, and in most of the woods about Dover, often with 5, 6, and 7 leaves. In thickets near Lyminge. In Stowting Wood, and in the Wood above the Cherry-garden, near the Turnpike.—*Lancash.* About Yealand.—*Leicestersh.* Hollinghall Wood near Loughborough, Buddon Wood, and Stocking Wood near Leicester. Okely Wood near Hathern. Charnwood Forest.—*Middlesex;* Ken-Wood, Hampstead. Old Park Hanging Wood, and elsewhere about Harefield.—*Norfolk;* In Blackwell, and Pismill Woods. Bedingham Wood near Bungay. Rackheath Wood.—*Northamptonsh.* In Whittleborough Forest; in Brampton and Cransley Woods; also in Harwick Wood.—*Northumberland;* Heaton Wood, Scott's Wood near Newcastle, and boggy woods below Morpeth.—*Nottinghamsh.* In Colnwick Wood. About Asply. Pleasley Wood, near Beauvale Abbey and Newton Wood.—*Shropsh.* Wood ten miles from Shrewsbury on the Ludlow road. Spernal Park, and Cliff Wood near Bridgnorth.—*Somersetsh.* Near Ashby Lodge, on Landsdown. In Stockwood, Keynsham, and in a small copse by the side of the Wells road, eight miles from Bristol.—*Suffolk;* Woods at Rushbrook, and Great Saxham.—*Staffordsh.* Near Stone.—*Warwicksh.* Locke's Rough near Coleshill. Bannerley Rough, Coleshill, Fillongley, &c.—*Westmoreland;* Islands in Winandermere.—*Worcestersh.* Wood near the Devil's Den near Clifton-upon-Teme. Woods and thickets on the side of Breedon Hill. About Frankley. In thick woods at the western bases of the two beacons on Malvern Hills.—*Yorkshire;* Most of the shady woods about Castle Howard. Near Leeds. Newburgh, Byland, Wass, Hovingham, Conisthorpe Woods. Studley, Hackfall. Morcar Wood by Copgrove, and elsewhere, most common. Near Rotherham.—WALES. *Denbighshire;* Among the thickets on the north side of Garregwen Rocks, and on the opposite side of the rivulet.—*Flintsh.* Sparingly in a wood in Treithin, and in one at Broncoed, both near Leeswood.—SCOTLAND. Wood about a mile south of Newbattle, near Dalkeith. Den of Bethaick, four miles from Perth. Banks a little above Calderwood. Banks of the Cart opposite the Mill: and bank of the Kelvin opposite the second Mill, Glasgow. Woods, Aberdeen. Glen of Lenny, north of Loch Menteith.—*Fifeshire;* Banks of the Isla near Airly Castle. Woods of Lyndock, banks of the Dee, sides of Loch Ness, and woods of Dumblane.—IRELAND. *County of Kerry;* Ross Woods.

Perennial.—Flowers in May and June.

Root‡ creeping, somewhat fleshy. *Stem* quite simple, from 8 to 12 inches high, upright, round, smooth, naked, except at the top. *Leaves* broadly egg-shaped, oval, or inversely egg-shaped, pointed, growing in a whorl at the top of the stem, usually 4, rarely 3, 5, or 6; of a dull green. *Flower-stalk* upright, angular, twisted, simple, and single flowered. *Calyx-leaves (sepals)* 3-ribbed. *Petals* narrow and pointed. *Anthers* yellow. *Styles* purplish black. *Germen* violet. Every other part of the flower is of a yellowish green. *Berry* purplish black.

Plant more curious than beautiful, but well deserving a place in the shrubbery; it should be planted in a shady situation where it is likely not to be disturbed.—Mr. W. Tew, of Church Handborough, brought me some fine specimens from that neighbourhood, (in flower May 11, 1833); amongst them was one with 5 leaves, 5 sepals, 5 petals, 10 stamens, and 5 pistils.

[The Rev. J. S. Henslow, A. M. Reg. Prof. of Bot. in the Univ. of Cambridge, has published a very interesting and valuable Paper in Loudon's Mag. of Nat. Hist. for June, 1832, p. 429, "On the Varieties of *Paris quadrifolia*, considered with respect to the Ordinary Characteristics of Monocotyledonous Plants."]

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‡ Roots purgative. Berry said to be narcotic and dangerous.



ADO'NIS*.

Linnean Class and Order POLYA'NDRIA†, POLYGY'NIA.

Natural Order. RANUNCULA'CEÆ. *Juss.*—Lindl. Syn. p. 7; Introd. to Nat. Syst. p. 6.—Rich. by Macgilliv. p. 465.

GEN. CHAR. *Calyx* inferior, of 5 blunt, concave, converging, somewhat coloured, deciduous *sepals (leaves)*. *Corolla* of from 5 to 15, oblong, blunt, shining *petals* (fig. 3), without *nectaries* on the claws. *Filaments* (fig. 4.) numerous, awl-shaped, very short. *Anthers* terminal, inflexed, of 2 round lobes. *Germens* superior, numerous, incurved, arranged in a round, or egg-shaped head (fig. 2.) *Styles* none. *Stigmas* pointed, spreading. *Seeds (cariopsides* of Lind.) (fig. 6.) numerous, angular, gibbous at the base, pointed at the summit, without any appendage. *Receptacle* (fig. 7.) cylindrical.

Distinguished from other Genera in the same class and order, by the 5-leaved calyx, the corolla of from 5 to 15 petals without nectaries, and the numerous awnless seeds.—The want of a nectary at the base of the petals will distinguish this genus from that of Ranunculus.

One species British.

ADO'NIS AUTUMNA'LIS. Pheasant's-eye. Adonis-flower. Flos-adonis.

SPEC. CHAR. Petals about 8, concave. Seeds reticulated, collected into a egg-shaped head. Stem branched.

Engl. Bot. t. 308.—Curt. Fl. Lond. t. 135.—Huds. Fl. Angl. (2nd ed.) p. 239.—Sm. Fl. Brit. v. ii. p. 586. Engl. Fl. v. iii. p. 43.—With. (7th ed.) v. iii. p. 676.—Lindl. Syn. p. 9.—Hook. Brit. Fl. p. 264.—Gray's Nat. Arr. v. ii. p. 724.—Sibth. Fl. Oxon. p. 171.—Hook. Fl. Scot. p. 172.—Walk. Fl. Oxf. p. 154.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 23.—*Flos Adonis*, Ray's Syn. p. 251.—*Flos Adonis flore rubro*, Johnson's Gerarde, p. 387.—Blaekstone's Specimen Botanicum, p. 22.

LOCALITIES.—In corn-fields, but not common.—*Oxfordshire;* In corn-fields near the Observatory, Oxford: Dr. SIBTHORP, in Fl. Oxon.—*Dorsetshire;* In several cornfields near Blandford, in a field opposite the first milestone on the Dorchester road, and in Stour Paine-field on the borders of the Camp Down: Dr. PULTENEY, in Bot. Guide.—In *Gloucestershire;* MISS LYSONS, in Sm. Fl. Brit.—*Hampshire;* Matterley Farm: Dr. PULTENEY, in Bot. Guide.—*Kent;* In the closes between Stonechurch and Queenhithe, plentiful: Mr. J. SHERARD. in Ray's Syn.—In the corn-fields about Dartford, but more abundantly in the marshes by the side of the Thames between Dartford and Greenhithe: Mr. J. WOODS, jun. in Bot. Guide.—*Middlesex;* Among the corn at Acton: Mr. WATSON, in Blackstone's Spec. Bot. Frequent about London:

Fig. 1. Calyx and Petals removed, showing the situation of the stamens.—Fig. 2. Germens.—Fig. 3. A Petal.—Fig. 4. A Stamen.—Fig. 5. A Head of Seeds.—Fig. 6. A Seed.—Fig. 7. The Cylindrical Receptacle.

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* From the deep red colour of the Corolla, which gave the idea of its being stained by the blood of *Adonis*, who was killed by a boar while hunting. DR. HOOKER.

† The 13th class in the LINNEAN *Artificial System;* it comprehends all those plants which have perfect flowers with 20 or more distinct stamens in each, inserted into the receptacle below the pistil, *(hypogynous)*.

Mr. Curtis, in Fl. Lond.— *Norfolk ;* Near Danver Sluice : Mrs. Plestow, in Sm. Eng. Fl.—*Wiltshire ;* In corn fields : Dr. Maton, in Bot. Guide.— SCOTLAND. Occasionally about Glasgow : Mr. Hopkirk, in Hook. Fl. Scot.—IRELAND. About Dublin : Dr. Wade, in Sm. Eng. Flora.

Annual.—Flowers from May to September.

Root tapering, fibrous. *Stem* upright, from 6 inches to a foot, or more, high, branched, often bushy, round, striated, leafy, hollow. *Leaves* dark green, alternate, sessile, triply, and copiously wing-cleft (pinnatifid). *Segments* strap-shaped, pointed, smooth, and shining on the under side. *Sepals (leaves of the calyx)* somewhat oval, blunt, concave, purple, deciduous, shorter than the petals. *Petals* (fig. 3.) from 6 to 8, of a deep shining crimson, with a black spot at the base of each. *Anthers* (fig. 4.) dark violet. *Seeds* wrinkled, composing an oblong-egg-shaped head, (fig. 5.), not an inch long.

This is a very pretty annual for the flower border, and if seeds of it are sown in the autumn as soon as they are ripe, and again in the spring, the plants from these two sowings will enliven the garden with their brilliant crimson blossoms from June to October. Besides the English names given above, it has been called *Bird's-eye*, *Red Maythes*, *Red Chamomile*, and *Rose-a-rubie*. Miller informs us, in his Gardener's Dictionary (1759), that great quantities of the flowers of this plant were annually brought to London, and sold in the streets by the name of *Red Morocco*. In French it is called *gouttes de sang (drops of blood); aile de faisan (pheasant's-wing);* and *oeil de perdrix (partridge's-eye)*.





ÓPHRYS APIFERA. *BEE-ORCHIS.2*

O'PHRYS*.

Linnean Class and Order. GYNA'NDRIA†, MONA'NDRIA.

Natural Order. ORCHI'DEÆ. *Juss.*—Tribe, OPHRY'DEÆ.—Lind. Syn. pp. 256 & 259; Introd. to Nat. Syst. pp. 262 & 265.—Rich. by Macgilliv. p. 412.—Sir J. E. Smith's Eng. Fl. v. iv. p. 3.

GEN. CHAR. *Perianthium* (*calyx and corolla*‡) superior. *Sepals* 3 (figs. a, a, a.), oblong, ribbed, equal, spreading, sometimes coloured. *Petals* 2 (b, b.), narrow, oblong, undivided, much smaller than the sepals, and generally coloured. *Lip* (*nectary* of Linn.) (c.) without a spur, convex above, concave beneath, more or less lobed, usually hairy, and figured. *Anther* oblong, of 2 parallel cells, more or less close together over the stigma. *Pollen-masses* (*stamens* of Linnæus) (fig. 1. f. and figs. 2 & 3) stalked, with 2 glands, each of which is enclosed in a separate pouch (fig. 1. g.) *Germen* (fig. 1. d.) inferior, oblong, curved, and furrowed. *Style* or *Column* (fig. 1. h.) short and thick, channelled in front. *Stigma* (fig. 1. e.) a moist cavity under the Anther. *Capsule* (fig. 4.) oblong, blunt, angular, with prominent ribs. *Seeds* very numerous, minute, coated.

The spreading Sepals, convex Lip without a spur, and the Glands of the stalks of the Pollen-masses being each of them enclosed in a separate pouch, will distinguish this from other genera in the same class and order.

Five species British.

O'PHRYS API'FERA. Bee Ophrys, or Bee Orchis.

SPEC. CHAR. Lip the length of the calyx, tumid, with 5 reflexed marginal lobes; the terminal one awl-shaped; the rest hairy above. Sepals coloured. Petals ciliated.

Engl. Bot. t. 383.—Curt. Fl. Lond. t. 66.—Huds. Fl. Angl. (2nd. ed.) p. 391.—Sm. Fl. Brit. v. iii. p. 938. Engl. Fl. v. iv. p. 30.—With. (7th ed.) v. ii. p. 42 —Lindl. Syn. p. 262.—Hook. Brit. Fl. p. 375.—Gray's Nat. Arr. v. ii. p. 204.—Sibth. Fl. Oxon. p. 13 —Abbot's Fl. Bed. p. 195.—Purt. Midl. Fl. v. ii. p. 426, and v. iii. p. 379.—Relh. Fl. Cantab. (3rd ed.) p. 365.—Fl. Devon. pp. 144 & 131.—Rev. G. E. Smith's Pl. of S. Kent, p. 52. t. 4. f. 10 & 11.—Loud. Mag. of Nat. Hist. v. i p. 398. f. 178.—Walk. Fl. of Oxf. p. 256.—Mack. Catal. of Pl. of Ireland. p. 76.—*Ophrys insectifera.* L. Linn. Sp. Pl. 1343.—*Orchis fuciflora, galeâ et alis purpurascentibus,* Ray's Syn. p. 379.—*Testiculus Vulpinus secundus Sphegodes,* Johnson's Gerarde, p. 212.

LOCALITIES.—In meadows and pastures, especially on a chalky or limestone soil.—*Oxfordshire;* Penley Hangings. Near Nuffield. Near Mungewell. I have twice observed a few plants of this *Ophrys* near the old road going over the south side of Shotover-hill. W. B.—*Berks;* On Streatley Hills. Near some old stone-pits about half a mile south-west of South Hinksey Plentiful in the same place in 1831. Near Appleton. In a Plantation on the right hand side of the road going from Hurley Bottom to Henley, and in a wood near the Druid's Temple, Park Place near Henley.—*Bedfordshire;* Hawnes, Barton, and Thurleigh.—*Bucks;* On the Chalk-hill near Hedsor Wharf. In

a, a, a. *Sepals,* or Leaves of the Calyx.—b, b. Petals.—c. Labellum.—Fig. 1. d. Germen. e. Stigma. f. Pollen-masses. g. Pouches or Cells of the Anther. h. Style or Column.—Fig. 2. A Pollen-mass.—Fig. 3. The same magnified.—Fig. 4. Capsule.—Fig. 5. Root.

* From *ophrus,* Gr. the *eye-brow,* one species of which is said to have been used by the ancients, either to blacken the eye-brows or to make them grow.

† The 20th class in the LINNEAN *Artificial System;* it comprehends those plants which have perfect flowers, with the stamens united with, or growing out of, the Pistil; either proceeding from the Germen, as in *Aristolochia,* t. 28, or from the style, as in the *Orchideæ.* ‡ See *Galanthus,* p. 33. *note.* ‡

a chalk-pit near Bulstrode. At Gerard's Cross. Chalk-pit near Medmenham, on the road to Henley, July, 1833.—*Cambridgesh.* Moor Barns, Madingley Wood, Hinton, Teversham, Fulbourn, Burrough-green, Chippenham, Linton, near Hall Wood, and Catlidge.—*Derbysh.* Near Matlock.—*Devon.* Branscombe Cliffs, and limestone rocks around Torbay. On rocks near the village of Babicombe. At Kingsteignton.—*Dorsetsh.* On Hod and Hambledon Hills, and many other places on the baulks in Nutford-field, near Blandford.—*Durham;* Rooker's Gill, near Fulwell. Fields on the coast, three miles south of Sunderland. Near Ryhope Turnpike Gate.—*Essex;* Chalk-pits at Purfleet, near Newport, and in the foot-way from Henham to Chickney. Near Great Leighs, and Broomfield.—*Gloucestersh.* Shepscombe Hill, Painswick.—*Hampsh.* Near Winchester, Bordean-hill, Steep-hill, and Carisbrooke.—*Herefordsh.* In the centrical parts of the county.—*Hertfordsh.* Chalk-pits on North-hall Common, and towards Rush-green near Hertford.—*Kent;* In Haley Wood-pits near Dartford. Common about Dover, and throughout the county.—*Leicestersh.* In a close near Stocking Wood, but rare; on the north-west side of the county.—*Middlesex;* In the old Chalk-pit near Harefield Mill.—*Norfolk;* Old pastures at Earsham. Common about Harleston. At Denton. At Gillingham.—*Northamptonsh.* Bushy Common between Blatherwick and Finshed.—*Nottinghamsh.* About Aspley.—*Shropsh.* Benthal Edge near Ludlow.—*Somersetsh.* On the high ground behind St. Vincent's Rocks, Bristol. Near Yeovil—*Suffolk;* Not uncommon about Yoxford. About Bury. Near Bungay. About Harleston. Brampton.—*Surrey;* On Reigate Hill. In chalk-pits on Epsom Downs near Ashted, and about Boxhill near Dorking.—*Sussex;* On declivities near Steyning. On the declivity near Offham chalk-pit near Lewes, and on the Downs near Mount Caburn. —*Wilts;* Trenches at Old Sarum.— *Worcestersh.* In rough pastures in a clayey soil on the S. side of Great Comberton towards Woollershill. Cracome Hill near Fladbury, and on the side of the road at the foot of the hill. About Abberley. Eastham near Tenbury. On the limestone rocks at Leigh Sinton Malvern Hills. *Yorksh.* Near Hildenley stone-quarry, Laver Banks, Ripon, Studley Woods, Thorp Arch, Kippax, and near Copgrove. Near Rotherham. About Wansley near Richmond.—WALES. *Glamorgansh.* About Penrice and Margam.—IRELAND. Portmarnock Sands near the S. end, abundantly. Near Enniskerry, on dry banks by the marsh near the bridge.

Perennial.—Flowers in June and July.

Root of two roundish, unequal knobs or bulbs, furnished at the top with a few longish, fleshy fibres. *Stem* from 6 to 12 inches high, round, leafy. *Leaves* spear-shaped, sheathing the stem. *Floral-leaves (bracteas)* strap-spear-shaped, longer than the *germens*. *Calyx-leaves (sepals)* widely spreading, oblong-egg-shaped, concave, of a pink or rose colour, with the keel, and two nerves green. *Petals* very small, oblong, bluntish, convex, spreading, greenish, hairy on the inner surface. *Lip (libellum*, or *nectary)* large, prominent, tumid, or inflated, very much resembling a small humble-bee, scarcely so long as the calyx; its disk smooth and polished, dark brown, variously marked with yellowish, angular, or curved lines and spots; the margin in five shallow reflected lobes, of which the two uppermost are prominent, and very hairy above, like the thighs of a bee; the two next dilated, thin, and rounded; the terminal one elongated, awl-shaped, acute, somewhat recurved at the point. *Style* or *Column* green, vaulted, with a sharp incurved, hooked point above the *anther*. *Cells* of the *anther* 2, strap-shaped, considerably distant from each other, above the *stigma*. *Pollen-masses* yellow, with long taper stalks. *Capsule* large, with thick prominent ribs.

The flower of this species so nearly resembles a small humble bee, that it might at a very short distance be mistaken for one.

A variety with a *white flower* has been found by Dr. Pulteney at Bordean, Hampshire, and by Miss Ulthoff, near Halesworth, Suffolk.



CIRCÆA LUTETIANA ANGIOSPERMIA DICHLAMYDEÆ 2

(9.)

CIRCÆ'A *.

Linnean Class and Order. DIA'NDRIA †, MONOGY'NIA.

Natural Order. CIRCÆA'CEÆ ‡, Lindl. Syn. p. 109; Introd. to Nat. Syst. p. 57.—ONAGRA'RIÆ, *Juss.*—Rich. by Macgilliv. p. 522.—Hook. Fl. Scot. pt. II. p. 258.—ONAGRÆ, Juss. Gen. Pl. p. 317.—Sir J. E. Smith's Gram. of Bot. p. 166.

GEN. CHAR. *Calyx* (fig. 2.) superior, deciduous, tubular at the base; limb in 2, egg-shaped, deflexed segments. *Corolla* of 2, inversely heart-shaped petals, alternate with the segments of the calyx. *Stamens* 2, alternate with the petals, inserted into the calyx. *Filaments* swelling upwards. *Anthers* roundish. *Disk* large, cup-shaped, filling up the whole of the tube of the calyx, and projecting beyond it. *Ovarium* (*Germen*) 2-celled, with an upright ovulum in each cell; *Style* simple, arising out of the disk. *Stigma* dilated, notched. *Fruit (capsule)* 2-celled, 2-valved, and 2-seeded. *Seeds* 1 in each cell, upright; *albumen* none; *embryo* upright; *radicle* short, inferior.

Herbaceous plants, with creeping *roots*, and opposite, stalked, toothed *leaves*. *Flowers* in terminal and lateral racemes, covered with uncinate (hooked) hairs.

The superior tubular *ealyx* in 2 segments; the *corolla* of 2 petals; and the 2-celled *eapsule*, with only one *seed* in each cell; will distinguish this genus from all others in the same class and order.

Two species British.

CIRCÆ'A LUTETIA'NA. Common Enchanter's Nightshade.

SPEC. CHAR. Stem upright, downy. Leaves egg-shaped, pointed, slightly toothed, opaque and downy, longer than the footstalk.

Eng Bot. t. 1056.—Curt. Fl. Lond. t. 204.—Linn. Sp. Pl. p. 12.—Huds. Fl. Angl. (2nd ed.) p. 10.—Sm. Fl. Brit. v. i. p. 13. Engl. Fl. v. i. p. 15.—With. (7th edit.) v. ii. p. 13.—Lindl. Syn. p. 110.—Hook. Brit. Fl. p. 11.—Lightf. Fl. Scot. v. i. p. 89.—Stbth. Fl. Oxon. p. 9.—Abbot's Fl. Bedf. p. 7.—Purt. Midl.

Fig. 1. A Flower, natural size.—Fig. 2. The same, with the petals removed, showing the Germen, Calyx, Disk, Style, and Stamens, magnified.—Fig. 3. Upper part of the Disk and Style, magnified.—Fig. 4. A Petal.—Fig. 5. Capsule.—Fig. 6. Section of ditto.—Fig. 7. A Seed.—Fig. 8. A Root.

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* From *Circe*, the Enchantress; either from the prettiness of its flowers, or, as some say, from growing in damp shady places, where plants used for incantations are found. Dr. HOOKER, in *Br. Fl.*—According to BOERHAAVE the name originated from the fruit, which is clothed with hooked bristles, laying hold on the clothes of passengers, and drawing them to it, as *Circe* was fabled to do by her enchantments.

† See *Veronica chamaédrys*, p. 50. note †.

‡ An Order established by Dr. LINDLEY, Professor of Botany in the University of London, who observes, that "it differs from ONAGRA'RIÆ in its large fleshy disk, which fills up the tube of the calyx, in its solitary erect ovula, and in the binary division of the flower. It is connected with that order through *Lopezia*, with which it cannot, however, be absolutely associated; and bears about the same relation to ONAGRA'RIÆ as is borne by HALORAGEÆ." Syn. p. 109.—*Circæa* is the only genus in this Order, consequently the character of the order is the same as that of the genus given above. See "Observations on the Natural Order of the *Onagrárieæ*; by A. L. JUSSIEU." Published in "Annals of Botany," vol. i. p. 530.

Fl. v. i. p. 54.—Relh. Fl. Cantab. (3rd ed.) p. 7.—Hook. Fl. Scot. p. 4.—Grev. Fl. Edin. p. 2.—Fl. Devon. pp. 2 & 169.—Johnston's Fl. Berwick, v. i. p. 6.—Rev. G. E. Sm. Pl. of S. Kent, p. 1.—Walk. Fl. of Oxf. p. 3.—Ray's Syn. p. 289.—Johnson's Gerarde, p. 351.—*Circaéa ovalifólia*, Gray's Nat. Arr. v. ii. p. 558.

Localities.—In moist shady woods, coppices, hedge bottoms, churchyards, orchards, &c.—Not uncommon.

Perennial.—Flowers from June to August.

Root creeping. *Stem* from a foot and a half to two feet high, round, leafy, the joints swelling, and sometimes reddish, clothed, more or less, with soft hairs, which, on the lower part of the stem, are reflexed (bent backwards), on the upper part straight and projecting. *Leaves* opposite, stalked, egg-spear-shaped, somewhat toothed, minutely hairy, hairs on the footstalks and veins inflexed (bent inwards). *Clusters* (*Racemes*), as well as the stems, more or less branched. *Calyx-leaves* coloured, deflexed. *Petals* inversely heart-shaped, spreading, white or rose coloured. *Capsule* reflexed, clothed with white hooked bristles. *Seeds* two.

According to Mr. Curtis the caterpillar of *Sphinx Elpenor*, or *Elephant Hawk Moth*, which chiefly confines itself to the *Galium palustre*, or *Marsh Ladies Bedstraw*, has sometimes been found feeding on this plant; and we are informed by the Rev. G. E. Smith, in his very interesting little work on the Phœnogamous (or flowering) Plants of South Kent, that "this plant, with *Mercuriális perénnis*, three species of *Salix*, *Rosa canina*, *R. rubiginósa;* the *Monthly Provence*, *Bishop*, and *Frankfort roses* in gardens, *Fragária stérilis*, &c. is used in the construction of cells by the various Leaf-cutter Bees. The plants of *Circæ'a*, destitute of flowers," Mr. Smith observes, "are usually preferred."

Puccínia Circæ'æ of Persoon's Synopsis, p. 228, and Greville's Flora Edinensis, p. 429, is not uncommon on the leaves of this species of *Circæ'a* in Bagley Wood, near Oxford; and in 1826, I observed a new species of *Ery'siphe*, which Dr. Greville has named *Ery'siphe nítida*, (see my Stirp. Crypt. Oxon. n. 97.), in great abundance, on the leaves and stems of the same plant, both in Bagley Wood, and in the Botanic Garden.



ATROPA BELLADONNA DEADLY NIGHTSHADE

A'TROPA*.

Linnean Class and Order. PENTA'NDRIA†, MONOGY'NIA.

Natural Order. SOLA'NEÆ, Juss. Gen. Pl. p. 124.—Sm. Gram. of Bot. p. 101.—Lindl. Syn. p. 180; Introd. to Nat. Syst. p. 231.—Rich. by Macgilliv. p. 435.—Loud. Hort. Brit. p. 527.

GEN. CHAR. *Calyx* (fig. 2.) inferior, of 1 sepal, (monosepalous,) permanent, in 5 deep, pointed, somewhat unequal segments. *Corolla* of 1 petal (monopetalous), bell-shaped; tube very short; limb tumid, egg-shaped, longer than the calyx, with 5 shallow, nearly equal, marginal segments. *Filaments* 5, (fig. 1.) awl-shaped, downy at the base, spreading and curved in their upper part, nearly as long as the corolla. *Anthers* deflexed, heart-shaped, 4-lobed, tumid. *Germen* egg-shaped, with a nectariferous gland beneath. *Style* (fig. 2.) thread-shaped, reclining, as long as the corolla. *Stigma* capitate (knobbed), ascending. *Berry* (fig. 3.) subtended by the enlarged calyx, globular, with 2 lateral furrows, 2-celled. *Receptacles (placentæ)* (fig. 4.) fleshy, 1 in each cell, attached to the transverse partition. *Seeds* numerous, kidney-shaped.

The monopetalous, inferior, bell-shaped corolla, distant incurved stamens, heart-shaped anthers, and 2-celled berry, will distinguish this from other genera, in the same class and order.

One species British.

A'TROPA BELLADO'NNA‡. Deadly Nightshade. Dwale.

SPEC. CHAR. Stem herbaceous. Leaves egg-shaped, pointed, undivided. Flowers axillary, on short stalks.

Eng. Bot. t. 592.—Curt. Fl. Lond. t. 347.—Woodville's Medical Botany, v. i. p. 1. t. 1.—Linn. Sp. Pl. p. 260.—Huds. Fl. Angl. (2nd ed.) p. 93.—Sm. Fl. Brit. v. i. p. 255. Eng. Fl. v. i. p 316.—With. (7th ed.) v. ii. p. 317.—Lindl. Syn. p. 182.—Hook Brit. Fl. p. 94.—Lightf. Fl. Scot. v. i. p. 144.—Sibth. Fl. Oxon. p. 78.—Abbot's Fl. Bedf. p. 51.—Purt. Midl. Fl. v. i. p. 128. and v. iii. p. 344.—Relh. Fl. Cantab. (3rd ed.) p 95.—Hook. Fl. Scot. p. 78.—Grev. Fl. Edin. p. 53.—Johnston's Fl. of Berwick, v. i. p. 60.—Perry's Pl. Varvicenses Selectæ, p. 21.—Rev. G. E. Smith's Pl. of S. Kent. p. 15.—Walk. Fl. of Oxf. p. 62.—*A'tropa lethàlis*, Gray's Nat. Arr. v. i. p. 330.—*Belladónna*, Ray's Syn. p. 265.—*Solánum lethàle*, Johnson's Gerarde, p. 340.

LOCALITIES.—Hedges and waste ground, on a calcarious soil, especially about ruins.—*Oxfordsh.* Wychwood Forest, near Witney; and between Nettlebed and Henley: Dr. SIBTHORP. Blenheim Park, near the monument: Aug. 1831. W. HART BAXTER. Queen's Wood in Blenheim Park, near the road to Handborough, pointed out to me by Mr. JOHN LONG, of Long Handborough. June 30, 1833. Mr. LONG informs me that it grows plentiful in a place called Stephill, in the parish of Long Handborough: W. B. Near the road-side going up Stokenchurch Hill: Mr. P. B. AYRES, 1833.—*Berks;* In Islev Churchyard, and about the ruins at Hampstead Marshall: Dr. NORTHEN. Tilehurst Common, and Englefield: Rev. R. WALKER, B. D.—*Bedfordsh.* Near Whipsnade, on the borders of Herts: Rev. C. ABBOT.—*Bucks;* On Keep-hill, near High Wycombe: Mr. W. CURTIS.—*Cambridgesh.* Cottenham, Triplow, Fulbourn, Reche, and Wisbeach: Rev. R. RELHAN.—*Cumberland;* Isell Hall Woods: Mr. HUTCHINSON.—*Derbysh.* Hardwick Park: Dr. STOKES. *Durham;* Banks

Fig. 1. Corolla, cut open to show the stamens.—Fig. 2. Calyx, Germen, Style, and Stigma.—Fig. 3. Ripe Berry.—Fig. 4 Transverse section of ditto.

* From *A'tropos*, the third Fate; she who was supposed to cut the thread of life, in allusion to the deadly quality of the plant.

† The 5th class in the LINNEAN Artificial System; it comprehends all those plants which have perfect flowers, with 5 distinct stamens in each.

‡ *Bella-donna, (Fair-lady,)* probably arose from its being used as a cosmetic by the Italian belles. WITHERING.

of the Wear, near Durham Abbey: Mr. Winch.—*Essex;* About Woodford: Mr. R. Warner.—*Gloucestersh.* Yard of Lantony Abbey, near Gloucester: Mr. Ballard.—*Hampsh.* Netley Abbey: Mr. W. Christy.—*Herts;* Between Temsford-mills and Welwyn: Dr. Martyn. Near Tring: Mr. W. Pamplin, jun.—*Kent;* About Rochester, and between that and Maidstone: Dr. Martyn. Near Faversham: Mr. E. Jacob.—In Pedlinge Wood: Mr. G. Qui-Hampton, in Rev. G. E. Sm. Pl. of S. Kent.—*Lancash.* Very luxuriant among the ruins of Furness Abbey, whence the valley is called the Vale of Nightshade: Mr. Atkinson.—*Leicestersh.* Near the ruins of Gracedieu Nunnery, at the northern extremity of Charnwood Forest; soil carboniferous limestone: Rev. A. Bloxam *, in Loud. Mag. Nat. Hist. v. iii. p. 167.—*Lincolnsh.* About Holland: Dr. Martyn.—*Norfolk;* In St. Faith's Newton, near Norwich: Mr. Woodward.—*Northamptonsh.* Road-sides near Peterborough; also in Blatherwicke Park, at Kingscliffe: Rev. S. Palmer, in Loud. Mag. of Nat. Hist. v. ii. p. 287.—*Notts;* Clifton-hill, and Mansfield: Dr. Martyn.—*Rutlandsh.* Near Luffenham: Dr. Martyn.—*Shropsh.* Lilliesliall Abbey, 1832: Dr. Lloyd.—*Surrey;* At Dorking.—*Warwicksh.* Sutton Coldfield: Ray.—*Wilts;* Near Great Bedwyn, 1833: W. Bartlett, Esq.—*Worcestersh.* About the ruins of Dudley Castle: 1815, Rev. W. S. Rufford; and Rev. W. S. Bricknell, 1828. Bell's Mill, near Stourbridge: Scott.—*Yorkshire;* Kirby Fleetham, near Richmond: L. E. O. in Loud. Mag. Nat. Hist. v. iii. p. 168. Near the river Don, in the vicinity of Doncaster: Mr. S. Appleby, in Loud. Mag. Nat. Hist. vol. v. p. 557.—*Berwicksh.* On the banks of Wooler Water, near Wooler: Mr. Winch.—SCOTLAND. *Angusshire;* In the Den of Bonnetown, near Montrose: Mr. Don, in Agricul. Report of Angus.—King's Park at Surling, and at I-Colmkill: Lightfoot.—Banks of the Cart, Cathcart Mill: Dr. Brown.—Ruins of Borthwick Castle: Mr. P. Neill, and Mr. Macghan.—Sea-side immediately west of the waggon-road from Limekilns: Dr. Greville, in Fl. Edin.—WALES. *Denbighsh* The Fron, near Chirk: Mr. H. Barrett.—IRELAND. At Straubally, by the brook, near the old Monastery: Dr. Wade.

Perennial.—Flowers in June, July, and August.

Root thick and fleshy. *Stems* herbaceous, from 2, to 4 or 5 feet high, round, branched in a forked manner, leafy, and somewhat downy. *Leaves* on footstalks egg-shaped, pointed, entire, nearly smooth on the upper surface, a little downy on the under, growing in pairs, one of which is smaller than the other, of a dull dark green. *Peduncles (flower-stalks)* solitary, imperfectly axillary, 1-flowered, gradually thickening upwards. *Flowers* of a lurid purple colour, nearly an inch long, bell-shaped, drooping. *Calyx* (fig. 2.) viscous. *Berry* (fig. 3.), when ripe, of a shining violet black, the size of a small cherry, 2-celled.

The whole plant is of a dark and lurid aspect, and is one of the most active and deleterious vegetable poisons we have among all our indigenous plants: the berries are most poisonous, and have furnished many instances of their fatal effects, particularly upon children, who, allured by their beautiful appearance and sweet taste, have been tempted to eat them. Even half a berry has been known to have proved fatal. A draught of vinegar, and keeping the patient walking to prevent sleep, are said to be the surest means of cure.

The leaves were first employed in medicine, under the form of fomentation, in cases of cancer, and they have been given internally in infusion; but the sufferings of the patient, under ever so small a dose, are said to be dreadful. An extract of the plant has been found useful to the Oculist, by its having the peculiar property (on applying it externally) of dilating the pupil; but it ought, in all cases, to be used with extreme caution, as instances are recorded of its causing permanent blindness. The juice of the ripe berries is said to stain paper of a beautiful and durable purple. Mr. W. Curtis says, that a goat ate the leaves and stems of this plant without injury; and that the caterpillars of *Phalæna Antiqua* and *Phalæna Brassicæ* feed upon the foliage.—According to Buchanan, the Scots mixed a quantity of the juice of the Belladonna with the bread and drink which by their truce they were to supply the Danes with, which so intoxicated them that the Scots killed a great part of Sweno's army while asleep.

* See also an interesting little book, written by the Rev. A. Bloxam, intitled "A Description of Bradgate Park and the adjacent country; with Remarks on the Natural History of Charnwood Forest, and a Memoir of Lady Jane Grey." No date, but probably published about 1828.



SÁMOLUS VALERÁNDI. *WATER PIMPERNEL.* 1/

SA'MOLUS*.

Linnean Class and Order. PENTA'NDRIA†, MONOGY'NIA.

Natural Order. PRIMULA'CEÆ, *Ventenat.*—Lindl. Syn. p. 182; Introd. to Nat. Syst. p. 225.—Rich. by Macgilliv. p. 431.—Loud. Hort. Brit. p. 529.—LYSIMA'CHIÆ, Juss. Gen. Pl. p. 95.—Sm. Gram. of Bot. p. 95.

GEN. CHAR. *Calyx* half superior, (Sir J. E. SMITH considered it as being inferior, the tube closely investing the lower half of the germen,) in 5 deep, upright, triangular, equal, permanent segments. *Corolla* (fig. 2.) of one petal (monopetalous,) salver-shaped; tube short, the length of the calyx; limb spreading, in 5 deep, blunt lobes, with 5 small, intermediate scales (imperfect stamens?) at their base, which are bent inwards. *Filaments* 5, from the middle of the tube, and opposite to the segments of the limb, awl-shaped, short (see fig. 2.) *Anthers* roundish, 2-lobed, sheltered by the scales of the corolla. *Germen* (fig. 3.) half inferior, nearly globular. *Style* upright, short. *Stigma* capitate (knobbed). *Capsule* (figs 4 and 6.) globular, of one cell, opening with 5 recurved teeth. *Receptacle (placenta)* central, loose. *Seeds* numerous, fixed by one end to the receptacle, albuminous. *Embryo* included; *radicle* next the hilum or scar.

The salver-shaped, 5-cleft corolla, with scales between the segments, and the half inferior capsule of 1 cell, and 5 recurved teeth, will distinguish this genus from all others in the same class and order.

One species British.

SA'MOLUS VALERA'NDI. Water Pimpernel. Common Brook-weed.

SPEC. CHAR. Leaves inversely egg-shaped, blunt. Clusters corymbose, many-flowered. Floral-leaves small, solitary, in the middle of each partial stalk.

Eng. Bot. t. 703.—Curt. Fl. Lond. t. 268.—Linn. Sp. Pl. p. 243.—Ray's Syn. p. 283.—Hudson. Fl. Angl. (2nd ed.) p. 94.—Sm. Fl. Brit. v. i. p. 259. Engl. Fl. v. i. p. 323.—With. (7th ed.) v. i. p. 308.—Gray's Nat. Arr. v. ii. p. 733.—Lindl. Syn. p. 185.—Hook. Brit. Fl. p. 98.—Lightf. Fl. Scot. v. i. p. 142.—Sibth. Fl. Oxon. p. 79.—Abbot's Fl. Bedf. p. 49.—Purt. Midl. Fl. v. i. p. 120.—Relh. Fl. Cant. (3rd ed.) p. 98.—Hook. Fl. Scot. p. 80.—Grev. Fl. Edin. p. 55.—Fl. Devon. pp. 41 & 142.—Johnston's Fl. of Berwick. v. i. p. 62.—Walk. Fl. of Oxf. p. 64.—Rev. G. E. Smith's Pl. of S. Kent, p. 15.—Perry's Pl. Varvicensis Selectæ, p. 21.—*Anagallis aquatica rotundifolia*, Johnson's Gerarde, p. 620.

LOCALITIES.—In marshes, wet ditches, watery places, &c. Frequent.—*Oxfordsh.* Sides of the ditch on the north side of Cowley Marsh, and in the Peat-bogs under Headington-Wick Copse: Dr. SIBTHORP. Ditch side between Heyfields-Hut and Port-Meadow; and in meadows near Oddington: W. B. On the banks of the Cherwell between Magdalen Bridge and King's Mill, Oxford, 1833: W. HART BAXTER.—*Berks;* In ditches in the Park, and in the intrench-

Fig. 1. Calyx and Corolla.—Fig. 2. Corolla cut open to show the Stamens and Scales.—Fig. 3. Germen, Style, and Stigma.—Fig. 4. Capsule.—Fig. 5. Longitudinal section of ditto, with seeds removed to show the receptacle. All magnified.

* From the island *Samos*, according to some authors, where VALERANDUS, a Botanist of the 16th century, is said to have gathered our *Sámolus Valerándi*. Others, as *Théis*, from *san, salutary*, and *mos*, a *hog* in Celtic, because it was used by the ancients for the curing of diseases in hogs. Dr. HOOKER.

† See *Atropa Belladónna*, p. 10, note †.

ments at Cæsar's Camp, East Hampstead: Mr. W. A. Delamotte.—*Bedfordsh.* On the banks of the Ouse above Bedford: Rev. C. Abbot.—*Cambridgesh.* Chesterton, Trumpington, and Teversham Moors; and in the Isle of Ely: Rev. R. Relhan.—*Cornwall;* Near Fowey, Ruan Langhorne, and in the Vale of Menachan: Rev. J. P. Jones, in Bot. Tour‡. Land's End near Penzance: Rev. W. T. Bree, in Loud. Mag. Nat. Hist. v. iv. p. 161. On the coast between Sunderland and Ryhope: Mr. Winch, in With. Arr.—*Devonsh.* Clyst Marshes, Branscombe Cliffs, Exminster Marshes; about Starcross and Kenton. Marychurch: Rev A. Neck, in Fl. Devon. Braunton Burrows: Dr. Wavell, ibid. Torquay: Rev. R. P. Welland, ibid.—*Essex;* In a little bog 2 miles from East Horndon Church: Mr. Hill.—*Hampsh.* In the salt marshes about Lymington: Dr. Withering.—*Kent;* In Brent Marshes near Faversham, Mr. E. Jacob. Sides of wet ditches about Woolwich, Charlton, and Greenwich; more particularly on the road leading from New-cross Turnpike to the Island of St Helena, Rotherhithe: Mr. W. Curtis.—On oozing clay between Sandgate and Folkstone; In Eastwear Bay; and on the banks of dykes in the Marsh: Rev. G. E. Smith.—*Laneash.* About Southport near Liverpool, and Westbech: Mr. Christy.—*Middlesex;* In the large ditches leading from Poplar to the Isle of Dogs, opposite to Greenwich: Mr. Jones. *Northumberland;* In bogs at Willington Quay, and Prestwick Carr: Mr. Winch.—*Surrey;* In a marshy spot on the left of the footpath leading from the Red House to Battersea: Mr. W. Pamplin, jun.—*Warwicksh.* Banks of the river Alne, above Oversley, and in some boggy ground near Bidford Grange: Mr. Purton. Near the river Leam, in front of Flora Cottage, Leamington: Mr. Smith. Near Itchington: Rev. W. T. Bree.—*Wilts;* In Bowood Park, near Calne: Dr. Stokes.—*Worcestersh.* On the side of the brook running from the brine-pit on Defford Common: Mr. Ballard.—*Yorksh.* Baydales near Darlington: L. E. O. in Loud. Mag. Nat. Hist. v. iii. p. 168.—Upon Stockton Moor, by the side of the turnpike road, near Castle Howard: Mr. R. Teesdale.—*Berwicksh.* On the coast at Bamborough: Mr. Winch. Low moist spots on Holy Island Links: Thomp.—Wet rocks on the sea banks near Gunsgreen: Mr. A. Baird.—WALES. In marshes and near springs: Rev. H. Davies.—SCOTLAND. In marshy places in the Island of Gigha: Rev. J. Lightfoot.—On the banks of the Clyde, and Bowling-bay, near Glasgow, plentiful: Mr. Hopkirk.—Laigs, Bute, and Arran: Mr. Murray. Lime-kilns, Fifeshire, and Guillon Links, near Edinburgh: Mr. Maughan. South Queensferry: Mr. Neill.—Links near St. Germains: Mr. D. Stuart.—IRELAND. Salt marshes near Sandymount, Ringsend, &c.: Mr. J. T. Mackay.—It is said to be an inhabitant of almost every part of the globe.

Perennial.—Flowers in June and July.

Root fibrous, white. The whole *herb* smooth, of a pale green colour, and somewhat succulent. *Stem* upright, from 6 to 12 inches high, round, leafy, more or less branched in the upper part. *Leaves* alternate, inversely egg-shaped, quite entire, lower ones on leaf-stalks, upper ones nearly sessile. *Clusters* (*Racemes*) many-flowered, flowers small, white, scentless. *Partial Flowerstalks* (*Pedicels*) solitary, one-flowered, bent upwards about the middle, with a small, egg-spear-shaped, deciduous *Floral-leaf* (*Bractea*) at the bend. *Calyx* bell-shaped, 5-cleft. *Corolla* salver-shaped, with a short cylindrical tube, and a spreading border of 5 blunt equal segments, alternating with which are 5 small, spear-shaped scales, which are bent inwards, and are supposed by some authors to be abortive stamens. *Stamens* shorter than the tube. *Filaments* awl-shaped. *Anthers* roundish, two-lobed. *Germen* half inferior, nearly globular. *Style* short, upright. *Stigma* capitate. *Capsule* upright, globular, opening at the top with 5 recurved teeth. *Seeds* many, small, angular, of a rusty brown colour. *Receptacle* (*Placenta*) on a short stalk, globose, spongy, loose.

‡ "A Botanical Tour through various Parts of the Counties of Devon and Cornwall." By the Rev. John Pike Jones. Published by Treadwin, Exeter; and Whittaker and Co. London, 1820.



SCUTELLÁRIA GALERICULÁTA. *COMMON SCULL-CAP* 4

SCUTELLA'RIA *.

Linnean Class and Order. DIDYNA'MIA †, GYMNOSPE'RMIA ‡.
Natural Order. LABIA'TÆ, Juss. Gen. Plant. p. 110.—Sm. Gram. of Bot. p. 99.; Eng. Fl. v. iii. p. 63.—Lindl. Syn. p. 196.; Introd. to Nat. Syst. of Bot. p. 239.—Rich. by Macgilliv. p. 439.—Loud. Hort. Brit. p. 528.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal or leaf (monosépalous or monophy'llous), tubular, short, 2-lipped, both lips entire, blunt, and closed after flowering; the upper lip having a conspicuous, concave tooth or scale on the upper side. *Corolla* (fig. 2.) of 1 petal (monopétalous), gaping (ringent), closed; tube very short, throat much longer, ascending, compressed, dilated upwards, upper lip concave, in 3 segments, the middle one concave, cloven, the side ones flat, covered by the middle one; lower lip broader, in 3 shallow lobes. *Filaments* (fig. 3.) 4, two longer than the other two (didynamous), concealed beneath the upper lip. *Anthers* small, roundish, fixed to the side of the filament (incumbent), 2-lobed. *Germen* (fig. 4.) 4-lobed. *Style* (fig. 4.) thread-shaped, on a level with the stamens. *Stigma* simple, pointed, bent in (incurved). *Seeds* (*Nuts* of DECAND. and LIND.) 4, roundish, covered by the closed, permanent Calyx.

The scale on the upper side of the calyx, which is closed after flowering, will distinguish this from all other genera, with a 2-lipped calyx, in the same class and order.

Two species British.

SCUTELLA'RIA GALERICULA'TA. Common Skull-cap. Hooded Willow-herb.

SPEC. CHAR. Leaves spear-shaped, scollopped (crenate), rugged, heart-shaped at the base. Flowers axillary.

Engl. Bot. t. 523 —Curt. Fl. Lond. t. 155.—Linn. Sp. Pl. p. 835.—Huds. Fl. Angl. (2nd ed.) p. 265.—Sm. Fl. Brit. v. ii. p. 645. Eng. Fl. v. iii. p. 113.—With. (7th ed.) v. iii. p. 724.—Gray's Nat. Arr. v. ii. p. 389.—Lindl. Syn. p. 204.—Hook. Brit. Fl. p. 282—Lightf. Fl. Scot. v. i. p. 320.—Sibth. Fl. Oxon. p. 190.—Abbot's Fl. Bedf. p. 134.—Purt. Midl. Fl. v. i. p. 282.—Relh. Fl. Cantab. (3rd ed.) p. 248.—Hook. Fl. Scot. p. 185.—Grev. Fl. Edin. p. 134. Fl. Devon. pp. 102 & 146.—Johnston's Fl. of Berwick, v. i. p. 134.—Perry's Pl. Varvic. Selectæ, p. 51.—Walk. Fl. of Oxf. p. 172.—Mack. Cat. Pl. of Irel. p. 57.—*Cassida palústris vulgátior, flore cærúleo*, Ray's Syn. p. 244.—*Lysimáchia galericuláta*, Johnson's Gerarde, p. 477.

LOCALITIES.—By the sides of ponds, rivers, and watery ditches. Not uncommon.

Perennial.—Flowers in June, July, and August.

Root white, jointed, and creeping. *Stem* from 10 to 18 inches high, upright, sharply 4-cornered (quadrangular), with the sides a

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. Corolla cut open, and a little magnified, showing the Stamens.—Fig. 4. Section of the Calyx, showing the Germen, Style, and Stigma.

* From *scutella*, a small vessel, on account of the figure of the calyx, which is not unlike a cup with its handle. The calyx inverted presents the figure of a helmet with visor raised.—LOUD. in *Encyclop. of Plants.*

† See *Lamium album*, p. 31. note †. ‡ See *Lamium album*, p. 31. note ‡.

little hollowed, and marked with 2 lines, leafy, branched, somewhat downy, down minute and bent back (recurved). *Leaves* opposite, on short leaf-stalks, tapering from a heart-shaped (cordate) base into a broadish spear-shaped, blunt figure, with shallow notches or teeth (serratures), a little wrinkled, veined, minutely hairy, paler underneath. *Floral-leaves (Bracteas)* two, very small, bristle-shaped, at the base of the Flower-stalk (Peduncle). *Flowers* axillary, in pairs, or solitary, on short peduncles, all leaning to one side of the stem or branches (unilateral), downy, the upper part variegated with shades of blue, the under nearly white, with light blue stripes, the mouth almost closed. *Calyx* hairy, furnished above with an arched scale. When the corolla falls off, the closed calyx and its lid become remarkable, somewhat resembling, in external appearance, a helmet with its crest, and characterize the genus beyond all uncertainty.

Dr. WITHERING remarks, that when the blossom falls off, the calyx closes upon the seeds, which when ripe, being still smaller than the calyx, could not possibly open its mouth, or overcome its elastic force, and must consequently remain without a possibility of escaping, did not Nature, ever fruitful of resources, find a method to discharge them. The calyx becoming dry, divides into two distinct parts; when the seeds already detached from the receptacle, fall to the ground.

Cows, goats, and sheep, are said to eat this plant; horses and swine to refuse it.

Scutellária lateriflóra, a North American plant, bears a great resemblance to this species, but it is more branched, the leaves are broader, more egg-shaped, and have longer footstalks, and the flowers are not solitary, or in pairs, as in *S. galericulata*, but are produced on racemes or bunches, from the axils of the leaves. This species (*S. lateriflora*) has been much celebrated in America as a remedy for preventing and curing Hydrophobia, and when properly and seasonably administered is seldom known to fail.

Although the *S. lateriflora* and *S. galericulata* so nearly resemble each other, in external appearance, yet the latter is said to possess none of the virtues of the former, and a mistake of taking one for the other has sometimes produced fatal effects. See "A History of the introduction and use of *Scutellaria lateriflora*, (*skull-cap*,) as a remedy for preventing and curing HYDROPHOBIA, occasioned by the bite of Rabid Animals; with cases, accompanied with a plate of the plant. By LYMAN SPALDING, M. D." Printed at New York, 1819.

"Then *names* are good, for how, without their aid
Is knowledge gained by man, to man conveyed?
But from that source, shall all our pleasure flow?
Shall all our knowledge be, these names to know?
Then he with memory blest, shall bear away
The palm from GREW, and MIDDLETON, and RAY:
No! let us rather seek in grove and field,
What food for wonder, what for use they yield;
Some just remark, from Nature's people bring,
And some new source of homage for her King."—CRABBE.

13



BUPLEURUM ROTUNDIFOLIUM. *HARE'S EAR* ⊙

BUPLEU'RUM*.

Linnean Class and Order. PENTA'NDRIA†, DIGY'NIA.

Natural Order. UMBELLI'FERÆ, Juss. Gen. Pl. p. 218—Sm. Gram. of Bot. p. 132.; Lindl. Syn. p. 111.; Introd. to Nat. Syst. p. 4.; Rich. by Macgilliv. p. 463.; Hook. Brit. Fl. p. 112—114.; Loud. Hort. Brit. p. 517.

GEN. CHAR. *Flowers* (fig. 1.) all regular, perfect and prolific. *Calyx* none. *Petals* 5, equal, roundish, entire, very short, with a broad involute point. *Filaments* 5, thread-shaped, spreading rather beyond the corolla. *Anthers* roundish. *Germen* inferior, egg-oblong, furrowed. *Styles* 2, very short, spreading, not extending beyond the circumference of their broad, tumid, rather depressed, bases. *Stigmas* simple, minute. *Floral Receptacle* none, unless the dilated margin of the tumid bases of the styles may be taken for such. *Fruit* (figs. 2 & 3.) egg-oblong, blunt, a little compressed at the side, crowned with the very short permanent styles. *Carpels (seeds,* LINN. and SM.*)* (figs. 5 & 6.) with 5 equal and winged, filiform and sharp, or slender and obsolete *ridges*, of which the lateral ones are marginal. *Interstices (channels)* with or without *vittæ* (receptacles of coloured oily matter). *Seed* taper, convex, flattish in front. *Involucres* various. *Flowers* greenish-yellow. *Leaves* entire.

The broad wedge-shaped, very short, involute petals; the egg-shaped, blunt fruit, with sharp prominent ribs, and flat *interstices;* and the short styles swollen at the base; will distinguish this genus from other umbelliferæ, with solid, unarmed, wingless, laterally compressed fruit.

Three species British.

BUPLEU'RUM ROTUNDIFO'LIUM. Thorow-wax ‡. Hare's ear.

SPEC. CHAR. General involucrum wanting. Leaves perfoliate, roundish egg-shaped. Partial involucrums mucronate.

Engl. Bot. t. 99.—Linn. Sp. Pl. p. 340.—Huds. Fl. Angl. (2nd ed.) p. 111.—Sm. Fl. Brit. v. i. p. 292. Eng. Fl. v. ii. p. 93.—With. (7th ed.) v. ii. p. 363.—Gray's Nat. Arr. v. ii. p. 526.—Lindl. Syn. p. 120.—Hook. Brit. Fl. p. 124.—Sibth. Fl. Oxon. p. 92.—Abbot's Fl. Bedf. p. 57.—Purt. Midl. Fl. v. i. p. 148.—Relh. Fl. Cantab. (3rd ed.) p. 111.—Perry's Pl. Varvic. Select. p. 25.—Walk. Fl. of Oxf. p. 84.—*Bupleúrum perfoliátum rotundifólium annuum*, Ray's Syn. p. 221.—*Perfoliáta vulgáris*, Johnson's Gerarde, p. 536.

LOCALITIES.—In corn-fields, especially on a chalky soil. Not common.—*Oxfordshire;* Parks; Southleigh; and Middleton Stoney: Dr. SIBTHORP.

Fig. 1. A Flower.—Figs. 2 & 3. Fruit entire.—Fig. 4. A transverse section of ditto.—Figs. 5 & 6. Separate Seeds.—Fig. 7. A Seed cut to show the albumen and situation of the embryo.—Fig. 8. Embryo.—All, except fig. 2. magnified.

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* From *bos*, Gr. *an ox*, and *pleuron*, Gr. *a rib;* from the ribbed leaves in some of the species. Dr. HOOKER, in Br. Fl.

† See *Anchusa sempervirens*, p. 48, note †.

‡ From the stem *waxing*, i. e. growing *thorow*, or *through*, the leaves.

Corn-fields in St. Giles's Fields, and on Bullington Green, near Oxford. Between Church Handborough and the Mill: W. B. Near Northmore: Mr. H. Bannett. Kirtlington fields, and fields about Cottisford: G. Woodward, Esq. Surgeon, Bicester *.—*Berks;* Corn-fields between Ferry Hinksey and Cumnor Hurst: W. B.—*Bedfordshire;* Barton Hill, and Woburn: Rev. C. Abbot.—*Cambridgeshire;* Gogmagog Hills, by the lower road; Stapleford; Teversham; and between Quey Church and Bottisham: Rev. R. Relhan. Abundant about Swoffham: Rev. Professor Henslow.—*Dorsetshire;* On Langton Farm, near Blandford; and between Spetisbury and Almer: Dr. Pulteney.—*Essex;* About Ugly, and Newport: Mr. E. Forster, jun. Near Purfleet: Mr. T. F. Forsten, jun. Near Broomfield: J. G. in Mag. Nat. Hist. v. iv. p. 446.—*Kent;* Between Greenhithe and Stone, in a field by the road; and near Lewisham: Dr. Mantyn. About Dartford: Mr. J. Woods, jun.—About Cobham: Mr. W. Pamplin, jun.—*Lincolnshire;* Carlby, between Stamford and Bourn: Mr. Woodward.—*Middlesex;* Near the Mill at Harefield: Mr. Blackstone.—*Norfolk;* Corn-fields at Marham: Mr. Woodward.—*Suffolk;* Wheat-fields at Saxham: Sir T. G. Cullum.—*Surrey;* Leatherhead and Sutton: Dr. Mantyn. Amongst the corn on Epsom Downs: Mr. T. F. Forster, jun. Near Box-hill: Mr. J. Woods, jun. Near Guildford: Mr. W. A. Delamotte.—*Sussex;* Near the Rock at Uckfield, by the footpath to Pilt Down: Mr. Borrer. Near Tunbridge Wells: Mr. Forster.—*Warwickshire;* Bidford and Wootton, near Warwick: Rev. W. T. Bree, in Loud. Mag. Nat. Hist. v. iii. p. 163. Bidford, Haslor, and Grafton: Mr. Purton.—*Wilts;* Near Amesbury, on Salisbury Plain, plentiful: Dr. Withering, and E. Duke, Esq.—*Worcestershire;* Badsey and Bretforton: Mr. Purton.—*Yorkshire;* Near Malton, and Slingsby: Mr. Teesdale. Near Copgrove: Rev. J. Dalton. Near Ripon: Mr. Brunton. About Barton: Rev. Archdeacon Pierson. Near Rotherham: Mr. L. Langley, in Loud. Mag. Nat. Hist. v. ii. p. 269.

Annual.—Flowers in June and July.

Root small, tapering, and fibrous. *Stem*, from one to two feet, or two feet and a half high, slightly zigzag, upright, round, hollow, smooth, leafy, branched alternately in the upper part, and somewhat corymbose, very hard and rigid, and often of a reddish-purple colour. *Leaves* alternate, remarkably perfoliate, broadly egg-shaped, quite entire, smooth, bluish green, sometimes purplish at the margin, tipped with a minute awn or spine, principal veins radiating from their union with the stem. *Umbels* terminal, compound, solitary, of about 6 general rays, and rather more very short *partial ones*. *General involucrum* none. *Partial one* of from 3 to 5 large, egg-shaped, ribbed, yellowish-green, bristly pointed leaves. *Flowers* yellow. *Petals* very short, and rolled inwards. *Seeds* (*Carpella* of Hooker and Lindley) oblong, flattish on one side, convex on the other, with 5 prominent, bordered ribs.—This plant is reckoned among the vulnerary herbs, in old Herbals.

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* On the 18th instant (January, 1834) Mr. Woodward, who is an excellent British Botanist, was so kind as to forward to me, from Bicester, a few bulbs (one of them in flower) of *Lucojum vernum;* which he obtained from a brake near the Catholic Chapel, Hethe, Oxfordshire; where, he informs me, it grows in immense quantities, and has been known to grow there for more than a century, no house nor village being near the spot. This plant is a native of Italy, the south of France, Germany, Austria, and Switzerland, but it has never before been found wild in Britain. It has been cultivated in this country ever since the time of Gerarde (1596), yet it is at this time a rare plant in our gardens. That it should have become naturalized in such quantity in the place above mentioned, seems rather an extraordinary circumstance.



EPILÓBIUM ANGUSTIFÓLIUM FRENCH WILLOW L

EPILO'BIUM*.

Linnean Class and Order. OCTA'NDRIA†, MONOGY'NIA.

Natural Order. ONAGRA'RIÆ. *Juss.*—Lindl. Syn. p. 107.; Introd. to Nat. Syst. p. 56.—Rich. by Macgilliv. p. 522.; Loud. Hort. Brit. p. 513.—ONA'GRÆ, Juss. Gen. Pl. p. 317.—Sm. Gram. of Bot. p. 166.—EPILOBIA'CEÆ, *Ventenat.*

GEN. CHAR. *Calyx* (fig. 1.) superior, of 1 sepal (monosepalous), deeply divided into 4 oblong, pointed, coloured segments, which fall off after flowering. *Corolla* of 4 petals (tetrapetalous), which are dilated upwards, more or less cloven, spreading, and inserted between the divisions of the calyx. *Filaments* 8, awl-shaped, from the throat of the calyx; 4 alternate ones shorter. *Anthers* oval, compressed, blunt, attached by the back. *Germen* (fig. 2.) inferior, cylindrical, slightly 4-cornered, very long. *Style* thread-shaped. *Stigma* thick, blunt, either undivided, or usually in four deep, recurved segments. *Capsule* (fig. 3.) very long, bluntly 4-cornered, furrowed, with 4 cells, and 4 strap-shaped valves, with central partitions. *Seeds* (fig. 4.) numerous, small, oblong, each crowned with a tuft of hairs. *Receptacle (placenta)* very long, strap-shaped, 4-cornered (quadrangular), pliant, coloured, its angles meeting the central partition of each valve.

Herbaceous *plants*, with simple, generally toothed, *leaves*. *Flowers* purple or rose coloured, axillary and solitary, or terminal in leafy clusters or spikes. *Seed-down* silky.

The superior, deeply 4-cleft *calyx; corolla* of 4 petals; and the elongated, 4-celled, 4-valved *capsule*, with many bearded *seeds;* will distinguish this from other genera in the same class and order.

Nine species British.

EPILO'BIUM ANGUSTIFO'LIUM. Rose-bay Willow-herb. Persian, or French Willow.

SPEC. CHAR. Leaves scattered, strap-spear-shaped, veiny, smooth. Flowers irregular, somewhat spiked. Stamens bent down.

Eng. Bot. t. 1947.—Curt. Fl. Lond. t. 106.—Linn. Sp. Pl. p. 493.—Huds. Fl. Angl. (2nd ed.) p. 161.—Sm. Fl. Brit. v. i. p. 409. Eng. Fl. v. ii. p. 212.—With. (7th ed.) v. ii. p. 469.—Lindl. Syn. p. 103.—Hook. Brit. Fl. p. 179.—Lightf. Fl. Scot. v. i. p. 197.—Sibth. Fl. Oxon. p. 121.—Abbot's Fl. Bedf. p. 84.—Purt. Midl. Fl. v. iii. p. 326.—Hook. Fl. Scot. p. 116.—Grev. Fl. Edin. p. 85.—Johnston's Fl. of Berwick, v. i. p. 86.—Rev. G. E. Smith's Pl. of S. Kent, p. 23.—Walk. Fl. of Oxf. p. 106.—Fl. Bath. p. 16.—*Lysimachia speciosa, quibusdam Onagra dicta, siliquosa*, Ray's Syn. p. 310.—*Chamænerion*, Johnson Gerarde, p. 477.—*Chamænerion Spicatum*, Gray's Nat. Arr. v. ii. p. 559.

LOCALITIES.—In meadows, moist shady places, woods, &c. Rare.—*Oxfordsh.* At Grays, near Henley: Rev. Mr. LIGHTFOOT. Stokenchurch: Dr. SIBTHORP.—*Berks;* On the outside of a copse above Childswell Farm: 1823. W. B. Near Appleton: Miss HOSKINS.—*Bedfordsh.* Near Dunstable: Rev. C. ABBOT.—*Bucks;* In a wood on Comb-Hill near Ellesborough: BLACKSTONE. Hedge near Farnham, in abundance: Mr. GOTOBED.—*Cheshire;* In Longdendale, above Tintwistle: Mr. BRADBURY.—*Cumberland;* Banks of the Eden, Corby: Mr. HUTCHINSON.—*Derbysh.* Matlock; Darley: Mr. COKE. On high rocks by

Fig. 1. Germen, Calyx, Stamens, and Pistil.—Fig. 2. Germen, Style, and Stigma.—Fig. 3. Seed-vessel.—Fig. 4. A Seed.

* From *epi*, Gr. *upon*, and *lobos*, a *pod;* the flower being placed upon the top of the elongated seed-vessel. Dr. HOOKER, in Brit. Flora.

† See *Adóxa Moschatéllina*, p. 42. n. †.

Sparry Pit near Chapel le Frith: Mr. O. Sims.—*Durham;* On the banks of the Tees in Teesdale: Rev. J. Harriman.—Rocks above Feldon Lead-Mill, two miles west of Edmondbyers; and by the Tees, above Middleton: Mr. Winch, —*Hampsh.* About two miles before you come to Alton from Ashton, by the side of a copse: Ray. In the road from Chichester to Arundel: Mr. E. Forster, jun. Woods near Alresford: N. B. Young, Esq. New College, Oxford.—*Herts;* Near Cheshunt Church: Mr. J. Woods, jun. Plentiful near Berkhamstead: Mr. Woodward.—*Kent;* Woods about half a mile west of River Poorhouse, by Dover: Mr. Dillwyn. Maize Hill beyond Greenwich: Mr. W. Curtis. Above Charing, on the Canterbury road: Mr. E. Jacob, and Rev. G. E. Smith. —*Lancash.* Satterthwaite at Brow Edge on Furness Fells: Mr. Jackson. Hawkshead: Dr. Martyn.—*Middlesex;* Cane Wood, Hampstead: Dr. Martyn. By the side of a hill about midway between Uxbridge and Beaconsfield: Blackstone. Near East Barnett: Mr. J. Woods, jun,—*Northumberland;* Whin Rocks on the west side of Shewing Shields; and banks of the rivulet above Langley Ford at the foot of Cheviot: Mr. Winch.—*Somersetsh.* Naturalized near the bridge below the Paper Mill at Combe Down: Dr. H. Gibbs, in Babington's Flora Bathoniensis.—*Staffordsh.* Near the Canal-bridge at Oldbury: Dr. Withering.—*Suffolk;* In a wood at Hedenham, about three miles from Bungay: Mr. D. Stock, in Lou. Mag. of Nat. Hist. v. iii. p. 155.—*Surrey;* On a rising ground, beyond the Robin Hood Inn, in the road to Kingston-upon-Thames: Sir J. E. Smith, in Engl. Fl. Plentiful on Boxhill; and between Wimbledon and Kingston: Mr. J. Woods, jun.—*Sussex;* Near a stone-quarry between Lamberhurst and Stone Crouch: Mr. E. Forster, jun. Wood in the way from the Wells at Tunbridge to Frant; and near Beyham Abbey: Forster. In several parts of St. Leonard's Forest; and in woods near Arundel: Mr. Borrer.— *Warwicksh.* Ryton Wood: Rev. W. T. Bree, in Loud. Mag. Nat. Hist. v. iii. p. 164.—*Worcestersh.* Near Bewdley: Mr. Dyer. Within rails inclosing a young quick-set hedge, the boundary of Iverley common: Mr. Purton, in Midl. Fl.—*Yorksh.* Meadows near Sheffield, plentiful: Ray. In Bilsdale above Helmsley: Mr. Teesdale. Near Saivley by Ripon: Mr. Brunton. Morcar Wood near Copgrove: Rev. J. Dalton. By the Swale, near Richmond: L. E. O. in Loud. Mag. Nat. Hist. v. iii. p. 168.—[*Berwick;* In a very deep and savage glen about one mile south of Fastcastle: Rev. A. Baird.] —WALES. *Carnarvonsh.* Among the bushes in several of the meadows in Cwm y Clo, at the bottom of the Lower Llanberris Lake: Mr. Bingley.— SCOTLAND. In the Corston Woods, and rocks to the East of the Kirk of Shots, near Hamilton: Dr. Parsons. Near Lock Lutnaig, 20 miles west of Sterling, by the road from Tyndrum: Dr. Stuart. Habbie's How, Pentland Hills. In Collington and Abercorn Woods: Mr. Maughan. Banks of the Clyde at Barncluith: Mr. Hopkirk. Fall of Fyers and Woods by Lochness: Mr. Murray. Rosslyn and Auchindenny Woods: Dr. Graham.—IRELAND.—Among loose stones at the Scalp, left hand side of the road as you go to Enniskerry: Mr. J. T. Mackay.

Perennial.—Flowers in July and August.

Root creeping, somewhat fleshy. *Stems* from 3 to 6 feet high, upright, reddish-brown, simple, or slightly branched upwards, round, smooth, and leafy. *Leaves* scattered, nearly sessile, strap-spear-shaped, pointed, weavy, entire, or slightly toothed, smooth, veiny, glaucous beneath, single ribbed, rib whitish. *Calyx* coloured. *Flowers* numerous, deep rose-coloured, sometimes white, on long, terminal, upright clusters, with a small strap-shaped *braetea* under each partial stalk. *Petals* unequal, inversely egg-shaped, or inversely heart-shaped. *Germen* hoary, purplish on the upper side. *Stamens* and *Style* bent downwards. *Pollen* blue. *Stigma* large, 4-cleft. *Capsule* very long, with 4 blunt angles. *Seeds* small, each crowned with a tuft of long white hairs. *Receptaele* very long, loose, pliant, coloured, and 4-angled, the angles meeting the central partition of each valve.

This is a very ornamental plant, and on that account it is frequently planted in gardens; but as it increases very much by its long creeping roots, it is apt to become a troublesome weed to the gardener.—The young shoots are said to be eatable, and an infusion of the plant to be intoxicating. In Kamschatca an ale is brewed from the pith; and the down of the seeds, mixed with cotton or fur, has been manufactured into stockings, and other articles of clothing.





RESÉDA LÚTEA *WILD-MIGNONETTE.* ☉

RESE'DA*.

Linnean Class and Order. DODECA'NDRIA†, TRIGY'NIA.

Natural Order. RESEDA'CEÆ. *De Candolle.*—Lindl. Syn. p. 219; Introd. to Nat. Syst. p. 106.—Rich. by Macgilliv. p. 500.—Loud. Hort Brit. p. 500.—CAPPA'RIDES, Juss. Gen. Pl. p. 242.—Sm. Gram. of Bot. p 140.

GEN. CHAR. *Calyx* (fig. 2.) inferior, of one sepal, deeply divided into several narrow, irregular, permanent segments. *Corolla* (fig. 1) of 3, 4, 5, or 6, unequal, deciduous Petals, which are variously cut or divided (see fig. 3. a, b b, c.). *Nectary* (fig. 3. d.) a flat, upright, permanent, coloured gland, between the uppermost petal, or petals, and the stamens. *Filaments* (fig. 1.) short, hair-like, drooping, variable in number, from 11 to 15, sometimes more. *Anthers* oblong, upright. *Germen* (fig. 2.) superior, angular, unequally tumid. *Styles* 3, sometimes 4, terminal, short, or scarcely any. *Stigmas* blunt. *Capsule* (fig. 4.) pitcher-shaped, angular, tumid, leathery, of 1 cell, open at the top between the styles. *Seeds* numerous, kidney-shaped, stalked, ranged along 3, sometimes 4, lateral longitudinal *receptacles* or *placentæ*.

Distinguished from other genera, in the same class and order, by the variously cut petals, and the 1-celled gaping capsule.

Three species British.

RESE'DA LU'TEA. Wild Mignonette. Base Rocket. Rocket-Yellow-Weed.

SPEC. CHAR. Leaves deeply 3-cleft; lower ones wing-cleft. Calyx in 6 divisions. Petal 6, very unequal.

Eng. Bot. t. 321.—Jacquin's Floræ Austriacæ, 353.—Linn. Sp. Pl. p. 645.—Huds. Fl. Angl. (2nd ed.) p. 207.—Sm. Fl. Brit. v. ii. p. 513.—Engl. Fl. v. ii. p. 348.—With. (7th ed.) v. ii. p. 584.—Gray's Nat. Arr. v. ii. p. 666.—Lindl. Syn. p. 219.—Hook. Brit. Fl. p. 218.—Lightf. Fl. Scot. v. i. p. 249.—Sib. Fl. Oxon. p. 151.—Abbot's Fl. Bedf. p. 105.—Relh. Fl. Cant. (3rd ed.) p. 190.—Hook. Fl. Scot. p. 147.—Grev. Fl. Edin. p. 105.—Walk. Fl. of Oxf. p. 133.—Mack. Cat. of Pl. of Ireland, p. 46.—*Reséda vulgáris*, Ray's Syn. p. 366.—*Reséda Plinii*, Johnson's Gerarde, p. 277.

LOCALITIES.—Corn-fields and waste places, on a chalky and calcareous soil. Not common.—*Oxfordsh.* At Bensington, and Henley: Dr. SIBTHORP. In old stone-pits at Wheatley: Mr. J. LOVEGROVE. Between Skimming-dish Gate and the bye road to Fringford, very scarce: G. WOONWARD, Esq. Bicester. Between Steeple Aston and Rousham: Miss ARMSTRIDING.—*Berks;* About Reading: Mr. A. R. BURT.—*Bedfordsh.* Barton Hill: Rev. C. ABBOT.—*Cambridgesh.* In corn-fields and pastures: Rev. R. RELHAN.—*Durham;* Between Sunderland and South Shields: Mr. ROBSON.—*Gloucestersh.* On a wall at Clifton near Bristol: Mr. SWAYNE.—*Norfolk;* Frequent in the county: Mr. WOODWARD.—*Suffolk;* On a chalky soil, frequent: Mr. WOODWARD.—*In Surrey;* Mr. W. PAMPLIN, jun.—*Somersetsh.* On Beacon Hill, Combe Down, near Burnt-house Gate, and other parts of the hill, in the neighbourhood of Bath: Mr. C. C. BABINGTON, in Fl. Bathoniensis.—*Wilts;* Near Great Bedwyn: W. BARTLETT, Esq.—*Yorksh.* Near Rotherham: Mr. L. LANGLEY, in Loud. Mag. of Nat. Hist. v. ii. p. 270.—SCOTLAND. Hills between Pettycur and Burnt Island:

Fig. 1. Corolla.—Fig. 2. Calyx, Germen, and 3 Stigmas.—Fig. 3. Nectary and Petals, magnified; a, 2 upper Petals, b b, 2 middle ones; c, 2 lower ones; and d, Nectary.—Fig. 4. Seed-vessel.

* From *resedo*, to allay or mitigate; from some supposed medical qualities.

† The eleventh class in the LINNEAN Artificial System; it comprehends those plants with perfect flowers, which have from 12 to 19 stamens, both numbers inclusive.

Mr. P. Neil, in Hook. Fl. Scot. Near Kirkcaldy: Mr. Chalmers, ibid. Near Raith: Mr. D. Don, ibid. Between Arbroath and Montrose: Mr. Don, ibid. Road-side between Linlithgow and Falkirk: Mr. Maughan, ibid. Debris of Salisbury Craigs: Mr. D. Stuart, in Grev. Fl. Edin. Annat Park, Kilspindie, Perthshire: Mr. W. Gourlie, in Loud. Mag. of Nat. Hist. v. iii. p. 440.—IRELAND. On a gravelly bank by the side of the road, under the Strawberry banks, near Chapelizod: Mr. J. T. Mackay, in Cat. of Pl. of Ireland.

Annual.—If the Winter is mild it is sometimes Biennial, or even Perennial.—Flowers from June to September.

Root somewhat woody. *Stem* from 1 to 2 feet high, very much branched, thick, woody, striated, leafy, nearly smooth. *Leaves* alternate, somewhat stalked, with minute gland-like stipulas at the base, smooth, very various, upper ones deeply 3-cleft (trifid), lower ones wing-cleft (pinnatifid), or doubly wing-cleft (bipinnatifid), the segments in all strap-shaped, entire, flat, or wavy. *Clusters* terminal, many-flowered, tapering. *Flowers* buff-coloured, slightly scented, each on a partial flower-stalk, with a small *bractea* at its base. *Calyx* cut into 6 narrow strap-shaped segments. *Petals* 6, variously and unequally lobed, two upper ones with 2 wing-like lobes, two lateral ones unequally 2- or 3-cleft, two lower ones nearly entire. *Nectary* greenish-yellow, fringed. *Stamens* about 20, hanging down. *Capsule* triangular, open at top, and terminated by the 3 (sometimes 4) permanent stigmas. *Seeds* somewhat kidney-shaped, black and shining. Every part of the plant is clothed, more or less, with minute, semi-transparent glands.

The larva of *Pontia daplidiæ*, of Curt. Brit. Entom. v. i. t. 48, and Loud. Mag. Nat. Hist. v. ii. p. 228, fig. 61, feeds upon this species as well as on various *Cruciferæ*. It is one of our rarest British Butterflies, not above 5 or 6 having been caught in this country previous to 1829.

The Natural Order *Resedáceæ* *, of which *Reséda* is the only British example, was, I believe, first established by M. De Candolle; it is composed of *herbaceous*, dicotyledonous plants, with alternate *leaves*, the surface of which is minutely papillose; and minute, gland-like *stipulæ*. The *Calyx* is inferior, permanent, and deeply cut into from 4 to 6 segments. The *Corolla* consists of from 4 to 6 irregular, lobed Petals. The Stamens are inserted below the Germen (hypogynous), and vary in number from 10 to 15 or 20; the *Filaments* are upright, and the *Anthers* 2-celled, each cell opening by a longitudinal groove. Between the Petals and the Stamens is a kind of annular or shield-shaped, glandular *mass (nectary* of Linn.), which is more elevated on the upper side, and thus forms a hypogynous disk of a peculiar kind. The *Ovary (Germen)* is sessile, 3-lobed, 1-celled, and many-seeded, with 3 parietal *placentæ (receptacles)*. *Stigmas* 3, glandular, sessile. *Fruit (Capsule)* dry and membranous, or succulent, opening at the summit. *Seeds* several, kidney-shaped, attached to 3 parietal placentæ; the *embryo* is taper, curved, without albumen; and the *radicle* or *rootlet* is superior.

Dr. Lindley, Professor of Botany in the London University, has given a very different explanation of the flower of *Reséda*. This distinguished Botanist considers the *Calyx* (fig. 2.) as a common *involucrum*; the *Petals* (fig. 3. a, b b, and c,) as so many *neutral florets*; and the *Nectary*, a *Calyx* of a *fertile floret* in the middle, composed of Stamens and Pistils.—See his very splendid work, entitled *Collectanea Botanica*, t. 22.: and his *Introduction to the Natural System of Botany*, p. 106.

The Rev. J. S. Henslow, M. A. &c. Professor of Botany in the University of Cambridge, has published a very interesting and curious paper "*On a Monstrosity of the common Mignionette*," in the Transactions of the Cambridge Philosophical Society, vol. v. pt. i. (1833.)

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* The properties of this family are little known. *Reséda lutéola* yields a yellow dye, and the Mignonette, *Reséda odorata*, is cultivated for the sake of its delightfully fragrant flowers.



16



STÁCHY'S PALÚSTRIS. *CLOWN'S ALLHEAL* 4.

STA'CHYS*.

Linnean Class and Order. DIDYNA'MIA †, GYMOSPE'RMIA ‡.

Natural Order. LABIA'TÆ, Juss. Gen. Pl. p. 110.—Sm. Gram. of Bot. p. 99; Eng. Fl. v. iii. p. 63; Lind. Syn. p. 196; Introd. to Nat. Syst. p. 239; Bentham in Bot. Register, (1829.)—Rich. by Macgilliv. p. 439.—Loudon's Hort. Brit. p. 528.—VERTICILLA'TÆ, of Ray and of Linnæus.

GEN. CHAR. *Calyx* (fig. 4) inferior, of one sepal, tubular, somewhat bell-shaped, 10-ribbed, with 5, nearly equal, spinous pointed teeth. *Corolla* (fig. 3) of 1 petal, gaping (ringent); tube very short; throat oblong, swelling beneath at the base; upper lip upright, egg-shaped, mostly arched, often notched, (entire, HOOK.); lower lip larger, 3-lobed, the lateral lobes reflexed, the middle one largest, notched. *Filaments* 4 (fig. 1), two longer than the other two (didynamous), awl-shaped, shorter than the upper lip, and, after the anthers are burst, bent back on each side of the mouth. *Anthers* roundish, of 2 valves. *Germen* (fig. 2) angular, 4-lobed. *Style* (fig. 2) thread-shaped, the length of the stamens. *Stigma* cloven, pointed. *Seeds* 4 (fig. 5), angular, blunt, in the bottom of the permanent, scarcely altered calyx.

Distinguished from other genera, in the same class and order, by the nearly regular, 5-cleft calyx; the lower lip of the corolla with reflexed lateral lobes; and the stamens spreading outwards at each side, after the anthers are burst.

Five species British.

STA'CHYS PALU'STRIS. Clown's Woundwort. All-heal §.

SPEC. CHAR. Whorls of from 6 to about 10 flowers. Leaves strap-spear-shaped, mostly sessile, and half embracing the stem.

Curt. Fl. Lond. t. 208.—Eng. Bot. t. 1675.—Linn. Sp. Pl. p. 811.—Huds. Fl. Angl. (2nd ed.) p. 259.—Sm. Fl. Brit. v. ii. p. 633. Eng. Fl. v. iii. p. 99.—With. (7th ed.) v. iii. p. 715.—Gray's Nat. Arr. v. ii. p. 372.—Lind. Syn. p. 202.—Hook. Brit. Fl. p. 277.—Lightf. Fl. Scot. v. i. p. 313.—Sibth. Fl. Oxon. p. 186.—Abbot's Fl. Bedf. p. 130.—Purt. Midl. Fl. v. i. p. 271.—Relh. Fl. Cantab. (3rd edit.) p. 242.—Hook. Fl. Scot. p. 183.—Grev. Fl. Edin. p. 132.—Fl. Devon. pp. 99 & 145.—Johnston's Fl. of Berwick, v. i. p. 133.—Walk. Fl. of Oxf. p. 168.—*Sideritis Anglica strumosa radice*, Ray's Syn. p. 242.—*Panax coloni*, Johnson's Gerarde, p. 1005.

LOCALITIES.—Banks of rivers, wet ditches, watery places, moist cornfields, &c.—Common.

Fig. 1. Corolla cut open, showing the upper lip and the stamens.—Fig. 2. Germen, Style, and Stigma.—Fig. 3. Corolla.—Fig. 4. Calyx.—Fig. 5. A Seed.—Fig. 6. Tuberous extremity of a Root.—Figs. 1 & 2. magnified.

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* From *stachus*, Gr. a *spike*, or *ear of corn*; the inflorescence affecting that form.

† See *Lamium album*, p. 31, n. †. See p. 31, n. ‡.

§ From its high repute, formerly, as a vulnerary.

For a curious account of some extraordinary cures performed by means of this plant, see Gerarde's Herbal, p. 1005.

Perennial.—Flowers in July and August.

Root creeping, producing many shoots, which become tuberous towards the Autumn, and render the plant difficult of extirpation. *Stem* 2 feet high, upright, branched, 4-angled, hollow; clothed, especially at the angles, with stiffish hairs, which turn downwards; jointed, joints hairy, and often purplish. *Leaves* opposite, strap-spear-shaped, serrated, spreading, somewhat wrinkled, silky above, downy beneath, the ribs roughish with reflexed bristles; sessile, and slightly embracing the stem, or on very short leaf stalks. *Flowers* of a pale purple, variegated with violet and white, and arranged in *whorls* of from 6 to 10 flowers, forming a lax spike, each whorl of which is accompanied by a pair of small deflexed leaves. *Calyx* of one leaf, somewhat bell-shaped, cut into 5 nearly equal, sharp-pointed teeth, hairy, hairs terminating in small globules; purplish, and marked with 10 elevated lines. *Corolla* of one petal, gaping, tube very short, cylindrical, crowned internally with hairs; mouth marked with 2 prominent dots at the base of the upper lip; lower lip beautifully variegated with violet and white. *Filaments* hairy, thickest in the middle. *Anthers* purplish-black; *Pollen* white. *Germen* angular, 4-lobed. *Style* thread-shaped, the length of the stamens. *Stigma* bifid, pointed. *Seeds* somewhat triangular, enclosed in the permanent calyx.

A few years ago (about 1818?) the Society of Arts voted the silver Ceres medal to Joseph Houlton, Esq. F.L.S., &c. for introducing this plant to public notice. The thick tuberous buds formed on the roots of this species, and from which the stems of the next year are to arise, abound, from the end of autumn to the close of winter, in a mild, somewhat sweetish, farinaceous matter; these tubers, it is said, are then fit for domestic use, being crisp, without fibre, and of a peculiar, but scarcely perceptible flavour. The Rev. Mr. Lightfoot informs us, in his Flora Scotica, v. ii. p. 313, that in times of necessity they have been eaten by men, either boiled, or dried, and made into bread; but Mr. Houlton has the credit of having first suggested its use as an esculent vegetable, and of having made some experiments on the best way of cultivating it. This is supposed to be the only known instance of a plant belonging to the Natural Order of the *Labiatæ*, producing farinaceous tubers, capable of being applied to human food. See Loud. Gard. Mag. vol. v. p. 546.

On account of its extensively creeping roots it is often a great pest to the farmer, especially in cornfields in low moist situations.—Hogs are said to be fond of the roots; and Mr. Curtis thought, that when the crop was off they might be turned into those fields where the plant abounds, to great advantage.



COLCHICUM AUTUMNALE MEADOW-SAFFRON 2

Pubd by W Baxter Botanic Garden, Oxford. 1833.

L. Powell lith

CO'LCHICUM*.

Linnean Class and Order. HEXA'NDRIA†, TRIGY'NIA.

Natural Order. MELANTHA'CEÆ, *Dr. R. Brown.*—Lind. Syn. p. 264; Introd. to Nat. Syst. p. 272.—Loud. Hort. Brit. p. 539.—COLCHICA'CEÆ, *Decandolle.*—Rich. by Macgilliv. p. 401.

GEN. CHAR. *Calyx* none. *Corolla (Perianthium‡)* of 1 petal, tube very long, angular, extending down to the root, and arising from a spatha; limb bell-shaped, in 6 deep, elliptical, concave, upright segments, the 3 innermost of which are rather the smallest. *Filaments* 6, (see fig. 1.) awl-shaped, inserted into the tube of the corolla, shorter than the limb. *Anthers* oblong, of 2 cells and 4 valves, peltate, incumbent. *Germen* imbedded in the root, roundish. *Styles* 3, thread-shaped, as long as the stamens. *Stigmas* strap-shaped, recurved, channelled, downy. *Capsules* 3, superior, stalked, oblong, single-celled, inflated; convex externally; sharp at the inner edge, where they are combined longitudinally, and where they finally burst and separate. *Seeds* numerous, globose, attached irregularly to each margin of the capsule.

Distinguished from other genera in the same class and order, by the naked, inferior, monopetalous (1-petaled), tubular corolla; and the 3 inflated capsules, united at the base.

One species British.

CO'LCHICUM AUTUMNA'LE. Common Meadow-saffron. Tuberoot. Naked Lady. Upstart.

SPEC. CHAR. Leaves flat, broadly spear-shaped, upright. Segments of the corolla oblong.

Eng. Bot. t. 133.—Linn. Sp. Pl. p. 485.—Huds. Fl. Angl. (2nd ed.) p. 175.—Woodv. Med. Bot. v. iii. p. 483. t. 177.—Mart. Fl. Rust. p. 60?—Sm. Fl. Brit. v. i. p. 399. Engl. Fl. v. ii. p. 202.—With. (7th ed.) v. ii. p. 461.—Gray's Nat. Arr. v. ii. p. 172.—Lindl. Syn. p. 264.—Hook. Brit. Fl. p. 172.—Lightf. Fl. Scot. v. i. p. 192.—Sibth. Fl. Oxon. p. 119.—Abbot's Fl. Bedf. p. 83.—Purt. Midl. Fl. v. i. p. 183. and v. iii. p. 353.—Relh. Fl. Cant. (3rd ed.) p. 152.—Hook. Fl. Scot. p. 114.—Fl. Devon. p. 66.—Walk. Fl. of Oxf. p. 105.—Perry's Pl. Varvic. Selectæ, p. 33.—Bab. Fl. Bath. p. 51.—*Colchicum commune*, Ray's Syn. p. 373.—*Colchicum anglicum purpureum et album*, John. Ger. p. 157.

LOCALITIES.—In meadows, pastures, and woods. Not common.—*Oxfordsh.* Near Coombe, Heythrop, Stanton Harcourt, and Ashford Mills: Dr. SIBTHORP. Between Headington and Barton, near Oxford: Mr. H. HINTON. Plentiful in woods at Church Handborough, 1809 & 1833; W. B. In meadows N. of Upper Heyford: W. B. Leafield, Wychwood Forest: Mr. J. H. PARKER. Near Filkins and Bradwell: BISHOP of CARLISLE. Meadows on the left of the road between Bicester and Landford Lane, plentifully: Mr. G. WOODWARD. Near Alvescott: Mr. H. BARRETT. Common in Meadows about Rollright: MISS ARMETRIDING.—*Berksh.* Near Appleton, and Cumnor: N. B. YOUNG, Esq. New Coll. Eaton Stibble: Mr. H. BARRETT.—*Bedfordsh.* About Barford, and Thurleigh: Rev. C. ABBOT.—*Cambridgesh.* Wood Ditton: REV. R. RELHAN.—*Cheshire;* Meadow between Castle Hall, and River, Stayley: Mr. BRADBURY.—*Derbysh.* About Marston Montgomery; between Duffield and Burley; in Breadsal Long-Meadow; and near Derby: Mr. PILKINGTON.—*Devon;* Meadows at Torwood, near Torquay: Messrs. JONES and KINGSTON.—*Dorsetsh.* In St. Mary Blandford Meadows on the E. side of Mill Ditch; and in many other places in the meadows washed by the course of the

Fig. 1. Corolla, cut open to show the situation of the Stamens, Germen, and Pistils.—Fig. 2. The three combined Capsules.—Fig. 3. A transverse section of ditto, to show the position of the seeds.

* From *Colchis*, a province of Asia, on the East side of the Euxine sea, where it was said to grow abundantly.

† See *Galánthus nivális*, p. 33, note †. ‡ See p. 33, note ‡.

Stour: Dr. Pulteney—About Spetisbury: Dr. Maton.—*Durham;* In a field opposite Egleston: Rev. J. Harriman. Near Darlington: Mr. Robson. —*Gloucestersh.* In the meadow between the Church and the Medicinal Spring at Cheltenham: Dr. Withering. About Painswick: Mr. O. Roberts.— *Hampsh.* In a wood at Appleshaw: Mr. Borror Near Liphook: Mr. H. Barrett.—*Herefordsh.* About the north and centre of the county: Mr. Duncumb.— *Lancash.* A little below Newby Bridge, on the left hand side of the road to Ulverstone: Mr. J. Woods jun.—*Northamptonsh.* In woods at Cransley, and in a meadow at King's Thorp: Morton.—*Notts;* In Nottingham meadows, and about Trent Bridge: Dr. Deering.—*Shropsh.* Castle Fields, four miles from Oswestry on the Welch Pool road; Hope Mead near Bishop's Castle; near Caynham Court, Ludlow: Dr. Evans. About Wellington and Hales Owen: Dr. Withering. In a field opposite Aston, the seat of W. Lloyd, Esq. by Oswestry: Rev. J. Davies. Sweeney near Oswestry: Mr. H. Barrett.—*Somersetsh.* Meadows between Bath and Bristol: Mr. Dyer. Near Farley Castle, and in the fields about Bishop's Norton, abundantly: Mr. T. F. Forster, jun. About Keynham, Whitchurch, Queen's Charlton, and Pensford: Dr. Withering. In low moist pastures, and also in woods on the upper part of the hills about Bath: Rev. C. C. Babington.—*Staffordsh.* In Weston Park: Sir J. E. Smith. By the Trent, near Burton: Mrs. Acland, in Purt Mid. Fl.—*Suffolk;* At Little Stonham: Mrs. Cobbold. Laxfield: Mr. Davy.—Great Barton, and Hawsted: Sir T. G. Cullum. About Soham, Easton, &c.: Rev. G. Crabbe. Near Bury: Mr. Woodward. Pastures at Cretingham, a most noxious weed: Mr. Morse. Near Bungay, both purple and white flowered varieties in abundance: Mr. D Stock, in Loud. Mag. of Nat. Hist. v. ii. p. 387.—*Warwicksh.* Near Packington: Countess of Aylesford. Barford, Norbrooke, &c.: Mr. W. G. Perry. White flowered variety at Whitacre: Rev. W. T. Bree. Near Long Compton: Miss Armetriding.—*Wilts;* About Great Bedwyn: W. Bantlett, Esq.—*Worcestersh.* About Great Comberton, Great Malvern, and many other places in the county: Nash. On the banks of the Severn, near Worcester, both purple and white flowered varieties: Mr. E. Lees, in Loud. Mag. of Nat. Hist. v. iii. p. 161.— *Yorksh.* Near Ferry Bridge, Knaresborough, and South Dalton: Mr. Teesdale. About Ripon: Mr. Brunton. At Thirkleby: Rev. Archdeacon Pierson. Limestone pastures about Kippax, and Ledston; about Apperley Bridge, in Airdale, on clay: Rev. W. Woon. At Copgrove: Rev. J. Dalton. River side at Fryston: Mr. A. Aikin. Near Rotherham: Mr. L. Langley, in Loud. Mag. Nat. Hist. v. ii. p. 269. Near Richmond, L. E. O. ibid. p. 168. —WALES. *Flintsh.* Under a beech-tree between Upper Leeswood House, and the river near Mold: Mr. Griffith.—SCOTLAND. At Alloa, about the seat of Mr. Erskine: Rev. J. Lightfoot.

Perennial.—Flowers in September and October.

Bulb solid, resembling that of a tulip, furrowed on one side. *Stem* none. *Leaves* sessile, sheathing, radical, strap-spear-shaped, blunt, entire, dark green, smooth, a foot or more long, and from 1 to 2 inches broad. *Flowers* several, rising from the root, and appearing in succession, pale purple, sometimes white; tube from 5 or 6 to 8 or 10 inches long, white, and surrounded at the base by 2 or 3 membranous sheaths. *Limb* cut into 6, somewhat unequal, oblong, upright, concave segments. *Germen* at the base of the bulb, inclosed in one common sheath, and accompanied by the rudiments of the future leaves. *Styles* as long as the stamens, thread-shaped, reaching nearly to the base of the tube. *Stigmas* linear, recurved, channelled, downy. *Fruit* oval, formed of the 3 inflated, many-seeded *Capsules*. *Seeds* round, whitish, polished. The flowers appear in September, the leaves and fruit not till the Spring following§.

A very curious variety of this species (var. β. *floribus serotinis*, Eng. Fl.) was found in a meadow near Devizes, Wilts, by Mr. Salmon, about the year 1800, and was, in 1805, figured in the 20th volume of *English Botany*, t. 1432.

§ Plant acrid and poisonous, and farmers should be cautious how they turn cattle into pastures where it grows. Its properties are said to be similar to those of the *officinal squill*, and it is supposed to form a principal ingredient in the famous Gout medicine, commonly called *Eau Medicinale*. See With. Bot. Arr. 7th ed. v. ii. pp. 461, 462.



CÚSCUTA EUROPÆA *COMMON DODDER* ☉

CU'SCUTA*.

Linnean Class and Order. PENTA'NDRIA†, DIGY'NIA.

Natural Order. CONVOLVULA'CEÆ, *Dr. R. Brown.*—Lindl. Syn. p. 167; Introd. to Nat. Syst. of Bot. p. 218.—Rich. by Macgilliv. p. 442.—Lond. Hort. Brit. p. 526.—CONVO'LVULI, Juss. Gen. Pl. p. 132.—Sm. Gr. of Bot. p. 103.

GEN. CHAR. *Calyx* (see fig. 1.) inferior, of 1 sepal (monosepalous), cup-shaped, in 5, sometimes only 4, broad, more or less deep, permanent segments; its base fleshy. *Corolla* (fig. 2.) of 1 petal (monopetalous), with an elliptical tube; the limb divided into 5, sometimes only 4, deep, spreading, equal segments, which, in some species, are accompanied at the base with as many inflexed scales, alternate with the segments, and closing the throat. *Filaments* (fig. 3.) 5, sometimes only 4, awl-shaped, upright, shorter than the corolla. *Anthers* roundish, 2-lobed. *Germen* (fig. 4.) superior, roundish. *Styles* 2, sometimes 1 or 3, shorter than the corolla, spreading. *Stigma* simple or capitate (knobbed). *Capsule* (figs. 5 & 6.) membranous, elliptical, 2-celled, bursting all round towards the base. *Seeds* 2 in each cell, large, inversely egg-shaped, upright. *Embryo* without cotyledons.—GERTNER observes, that the embryo is filiform, spiral, monocotyledonous, and yellow; and that it makes about 3 convolutions round the central, globose, fleshy *Albumen*, (see figs. 7. & 8). Parasitical twining leafless plants, with thread-like stems, and nearly sessile lateral heads, or spikes, of pale flowers, each flower accompanied by a *bractea*.

The monopetalous, inferior, bell-shaped *corolla;* and the *capsule* of 2 cells, bursting all round transversely at the base; will distinguish this from other genera in the same class and order.

Two species British.

CU'SCUTA EUROPÆ'A. Greater Dodder. Hellweed.

SPEC. CHAR. Flowers nearly sessile. Corolla without any scales at the base of the stamens. Stigmas acute.

Engl. Bot. t. 378. (not t. 55.)—Hook. Fl. Lond. t. 67.—Linn. Sp. Pl. p. 180.—Sm. Fl. Brit. v. i. p. 282. Eng. Fl. v. ii. p. 24.—With. (7th ed.) v. ii. p. 251.—Lindl. Syn. p. 168.—Hook. Brit. Fl. p. 112.—Sibth. Fl. Oxon. p. 63.—Abbot's Fl. Bedf. p. 36.—Purt. Midl. Fl. v. i. p. 139.—Relh. Fl. Cant. (3rd ed.) p. 108.—Hook. Fl. Scot. p. 86.—Grev. Fl. Edin. p. 60.—Paley's Natural Theology, with plates and notes, by Mr. Paxton, of Oxford, (2nd ed.) v. ii. p. 131. t. 36.—Walk. Fl. of Oxf. p. 72.—Perry's Pl. Varvic. Selectæ, p. 24.—Mack. Catal. of Pl. of Irel. p. 26.—Bab. Fl. Bath. p. 31.—*Cúscuta*, Johnson's Gerarde, p. 577. *Cassytha major*, Gray's Nat. Arr. v. ii. p. 346.

LOCALITIES.—On nettles, thistles, flax, beans, &c. Not common.—*Oxfordshire;* Iffley, near Oxford: Dr. SIBTHORP. Near Cassington, on the road to Church Handborough, in great abundance; and on nettles, in a hedge on the south side of a lane, south of the church at Church Handborough, June 30, 1833: W. B.—*Berks;* Near Newbury: Mr. BICHENO. Between South Hinksey and Childswell Farm: W. B. "In a hedge by the footpath leading from Oxford to South Hinksey, on the blackthorn *(Prunus spinósa)*, the stems of

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Fig. 1. Calyx and Corolla.—Fig. 2. Corolla.—Fig. 3. Corolla cut open and magnified.—Fig. 4. Germen.—Figs. 5 and 6. Separate valves of the Capsule: 5, lower valve; 6, upper ditto.—Figs. 7 and 8. Spiral Embryo, highly magnified. From GERTNER.

* The same as *Kassutha*, Gr. probably from the Arabic *Keshout*, (Théis.) Dr. HOOKER, in Br. Fl.

† The 5th class in the Linnean Artificial System; it comprehends all those plants which have perfect flowers, with 5 distinct stamens in each.

which it had entirely covered in a thick mass, until it reached the smaller branches, from whence it spread to the top of the bush, giving it a very pleasing appearance; Aug. 27, 1833:" Mrs. Edw. Jenner. Near Cæsar's Camp: Mr. W. A. Delamotte.—*Bedfordsh.* Common: Rev. C. Abbot.—*Bucks;* Hedges near Eton: Mr. Gotobed.—*Cambridgesh.* Madingley, Barton, Oakington, and Swavesey: Rev. R. Relhan.—*Dorsetsh.* On nettles about Blandford, on beans in Pimpern cornfield, and on vetches: Dr. Pulteney.—*Essex;* On nettles at Castle Hedingham: Mr. D. Turner.—*Hampsh.* In Hawley-lane: Mr. W. A. Delamotte.—*Kent;* Near Canterbury, in a lane called Water-lane, near St. Stephens: Mr. J. Dix.—*Leicestersh.* On nettles near Leicester, but not common: Dr. Pulteney.—*Somersetsh.* Near Bath: Rev. C. C. Babington.—*Surrey;* On hops in a hedge near Thorpe, by Egham; Mr. D. Wicks.—*Sussex;* In hedges at Portslade and at Pangdean near Brighton; now and then in fields of vetches: Mr Borrer.—*Warwicksh.* Flax-fields about Packington: Countess of Aylesford. Near Allesley: Rev. W. T. Bree, in Loud. Mag. of Nat. Hist. v. iii. p. 163.—*Worcestersh.* At Shipston-upon-Stour: Rev. Dr. Jones. Batsey, and South Littleton: Mr. Purton, in Midl. Fl.—SCOTLAND. Musselburgh near Edinburgh: Mr. P. Neill.—IRELAND: Mr. J. T. Mackay.

Annual.—Flowers in August and September.

Root simple, small and slender, dying as soon as the stem has attached itself to some other plant. *Stem* thread-shaped, reddish, smooth, branched, twining, from right to left, round the stems of other plants, to the height of 2 or 3 feet, attaching itself to them by means of short, downy, root-like tubercles, which penetrate the epidermis of the foster plant, from which it derives its nourishment. *Leaves* none. *Flowers* in dense roundish heads, whitish, nearly sessile. *Calyx* reddish, usually 5-cleft. Tube of the *Corolla* bell-shaped, becoming globose, destitute of scales in the throat. *Limb* short, cut into 5, sometimes only 4, spreading segments, permanent as well as the stamens, which are generally 5. *Germen* globular. *Styles* short, reddish. *Stigmas* acute. *Capsule* nearly globular, pellucid, reticulated, and invested with the dry corolla. *Seeds* rounded, rough with very small elevated tubercles.

About 20 years ago, I saw, at Cassington, near Oxford, a large field of beans completely matted together with this parasite; it had taken possession of the whole crop, and having elevated itself several inches above the beans, produced a very beautiful effect, especially when the sun shone upon it. When it prevails so extensively as in this instance, it must be a very serious evil to the farmer. In the first volume of Loudon's Gardners' Magazine (pp. 79 & 197,) we are informed, that crops of Lucern are sometimes very much injured by this parasite in France and Italy. The farmers there find the best methods of destroying it to be, "either by cutting the Lucern frequently early in the season, and thus preventing the *Dodder* from fixing itself, or by paring or burning the surface, and thus destroying at once both the Lucern and the seeds of the parasite." The fresh plant boiled in water, with a little ginger and allspice, operates as an aperient. Hill.

The Natural Order Convolvulaceæ, consists of dicotyledonous *Herbaceous* plants or *shrubs*, whose *stems* are usually twining, and milky, smooth, or with a simple pubescence. Their *leaves* (except in *cuscuta*, which is destitute of them,) are alternate, undivided, or lobed, seldom pinnatifid, with no stipulæ. Their *inflorescence (modes of flowering)* axillary or terminal; *peduncles (flower-stalks)* 1- or many-flowered, the partial ones generally with 2 bracteas. Their *calyx* is inferior, permanent, and 5-cleft. Their *corolla* is hypogynous (inferior), of 1 petal, regular, deciduous; its limb 5-lobed, and generally plaited. Their *stamens* are 5, inserted into the base of the corolla, and alternate with the segments. The *ovarium (germen)* is simple, and supported upon an angular hypogynous *disk*, and has from 2 to 4 cells containing a small number of ovules. *Style* one, usually divided at the top, sometimes down to the base; *stigmas* blunt or pointed. The *capsule* has from 1 to 4 cells; the valves fitting, at their edges, to the angles of a loose dissepiment, bearing the seeds at its base; sometimes the capsule remains closed, or opens transversely. The *embryo*, of which the cotyledons are flat and plicate, is rolled upon itself, and placed in the centre of a soft and, as it were, mucilaginous *albumen*. See *Lind. Syn.* and *Rich.* by *Macgillivray*.

The only British Genera in this order are *Convolvulus*, t. 58; and *Cuscuta*. In the latter the embryo has no cotyledons.



ÆTHÚSA CYNÁPIUM. FOOL'S-PARSLEY. ☉

Ad.ª by W. Baxter Botanic Garden Oxford 1833.

ÆTHU'SA *.

Linnean Class and Order. PENTA'NDRIA †, DIGY'NIA.

Natural Order. UMBELLI'FERÆ, Juss. Gen. Pl. p. 218.—Sm. Gram. of Bot. p. 132; Eng. Fl. v. ii. p. 32.—Lind. Syn. p. 111; Introd. to Nat. Syst. of Bot. p. 4.—Hook. Brit. Fl. pp. 112—114.—Rich. by Macgilliv. p. 463.—Loud. Hort. Brit. p. 517.

GEN. CHAR. *Flowers* all perfect; the marginal ones a little irregular. *Calyx* superior, very minute, often scarcely discernible. *Corolla* of 5 petals, which are inversely heart-shaped, with a sharp inflexed point; the outermost rather the largest. *Filaments* 5 (fig. 2.), thread-shaped, horizontal, shorter than the corolla. *Anthers* roundish. *Germen* (fig. 3.) inferior, roundish, egg-shaped, deeply furrowed, rather pointed. *Styles* 2, short, spreading, tumid and egg-shaped at the base; at length reflexed, scarcely elongated. *Stigmas* blunt. *Fruit* roundish-egg-shaped. *Carpels* (*seeds*, Linn.) with 5 elevated, thick, sharply-keeled ridges, the lateral ones marginal, a little broader than the other, and bordered by a somewhat winged keel. *Channels (interstices)* with 1 *vitta* (see p. 13,). *Seed* half globose. *General Involucrum* none. *Partial Involucrum* (fig. 1.) of 3 unilateral pendulous leaves.

The roundish egg-shaped *fruit*, with 10 elevated, thick, sharply keeled ridges; the inversely heart-shaped, deeply lobed *petals* with a sharp inflexed point; the short *styles*, tumid, and egg-shaped at the base; and the *partial involucrum* of 3 unilateral drooping leaves (see fig. 1.); will distinguish this from other genera in the same class and order.

One species British.

ÆTHU'SA CYNA'PIUM. Common Fool's Parsley. Lesser Hemlock.

SPEC. CHAR. Leaves uniform, leaflets wedge-shaped, decurrent (running down the leaf-stalk), segments spear-shaped.

Eng. Bot. t. 1192.—Curt. Fl. Lond. t. 18.—Linn. Sp. Pl. p. 367.—Huds. Fl. Ang. (2nd ed.) p. 123.—Sm. Fl. Brit. v. i. p 323.—Eng. Fl. v. ii. p. 64.—With. (7th ed.) v. ii. p. 386.—Lindl. Syn. p. 119.—Hook. Brit. Fl. p. 122.—Lightf. Fl. Scot. v. i. p. 165.—Sibth. Fl. Oxon. p. 99.—Abbot's Fl. Bedf. p. 65.—Purt. Midl. Fl. v. i. p. 155.—Relh. Fl. Cant. (3rd ed.) p. 122.—Hook. Fl. Scot. p. 92.—Grev. Fl. Edin. p. 66.—Fl. Devon. pp. 52 & 167.—Johnston's Fl. of Berwick, v. i. p. 69.—Curt. Brit. Entom. v. i. t. 11.—Walk. Fl. of Oxf. p. 79.—Mack. Catal of Fl. of Irel. p. 29.—Bab. Fl. Bath. p 20.—*Æthúsa tenuifólia*, Gray's Nat. Arr. v. ii. p. 513.—*Cicutária tenuifólia*, Ray's Syn. p. 215.—Johnson's Gerarde, p. 1063.

LOCALITIES.—A common weed in gardens and cultivated fields.

Fig. 1. Partial Involucrum.—Fig. 2. Corolla.—Fig. 3. Germen, Calyx, and Styles.—Fig. 4. Fruit.—Fig. 5. Transverse section of ditto.—Fig. 6. Back of a Carpellum.—Fig. 7. Front of ditto.—Figs. 2, 3, 5, 6, & 7, more or less magnified.

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* From *aitho*, Gr. *to burn*, on account of its acrid quality. Dr. HOOKER, in Br. Fl.

† The 5th class in the LINNEAN *Artificial System*; it comprehends all those plants which have perfect flowers with 5 distinct stamens in each.

Annual.—Flowers in July, August, and September.

Root tapering, branched, whitish. *Stem* from 1 to 2 feet, or more, high, upright, branched, somewhat zigzag, jointed, round, smooth, striated, sometimes purplish, but not spotted. *Leaves* twice pinnate (bi-pinnate), smooth, dark lurid green, segments egg-spear-shaped, variously cut, lobed, and more or less decurrent: the lower leaves are sometimes thrice pinnate (tri-pinnate). *Umbels* terminal, on long stalks, spreading, and flattish. *Umbellules (partial* or *secondary Umbels)* small, distant. *General Involucrum* wanting. *Partial Involucrum* of 3 long, strap-shaped, unilateral, drooping leaves, by which it may be readily distinguished from all other plants of the same natural order. *Flowers* white. *Petals* somewhat radiating, inversely heart-shaped, with the summits bent in. *Anthers* purplish. *Fruit* roundish-egg-shaped, striated, pale brown. Whole plant smooth, except the flower-stalks, which are angular, and the angles are furnished with a minute transparent, papillose membrane.

Whole plant poisonous, and when eaten said to cause vomiting, delirium, numbness of the extremities, and often death. We are informed in Mr. LOUDON'S *Gardeners' Magazine*, vol. ii. p. 337, that a boy of six years old, who had taken some of the plant for parsley, at four o'clock, began immediately to utter cries of anguish, complained of cramps in the stomach, assumed a livid hue, and died at midnight. Another child, though the contents of his stomach were ejected, went out of his senses, but by great care ultimately recovered. Two Ladies of Castle Donnington, in Leicestershire, partook of some salad, into which some Fool's-parsley had been put for common parsley; they suffered a great deal, but ultimately recovered.—We cannot, as Dr. WITHERING observes, be too particular in discriminating these deleterious herbs, especially as they are frequently found growing intermixed with culinary vegetables. This plant has been sometimes mistaken for common parsley, but it may be readily distinguished by its leaves, which are of a much darker green, more flat, and more finely divided. It also wants the peculiar smell of the common parsley. If the curled-leaved parsley only was cultivated in gardens, no such mistakes could happen.

Fool's-parsley may be distinguished from Hemlock *(Conium maculátum)*, in the stem *not* being spotted, in its having but little smell, and by its more humble growth. Cows, horses, sheep, goats, and swine, are said to eat it. It is reported to be poisonous to geese.



PYRETHRUM PARTHENIUM *FEVERFEW* ♂

PY'RETHRUM *.

Linnean Class and Order. SYNGENE'SIA †, POLYGA'MIA, SUPERFLUA ‡.

Natural Order. COMPO'SITÆ §, *Adans.* Tribe, CORYMBI'FERÆ ||, *Juss.*—Lindl. Syn. pp. 140 & 143.; Introd. to the Nat. Syst. pp. 197 & 199.—Loud. Hort. Brit. pp. 520 & 522. SYNANTHE'REÆ, tribe, CORYMBI'FERÆ, Rich. by Macgilliv. pp. 454 & 455.—CORYMBI'FERÆ, Juss. Gen. Pl. p. 177.—Sm. Gram. of Bot. p. 121.

GEN. CHAR. *Involucrum (common calyx)* (fig. 1.) hemispherical, imbricated. *Scales* oblong, nearly equal, bluntith, with membranaceous margins. *Corolla* compound, radiant; *florets* of the disk (fig. 2.) perfect (having both stamens and a pistil), tubular, with 5 equal spreading segments; those of the radius (fig. 3.) numerous, strap-shaped, spreading, with 3 terminal teeth. *Filaments* 5, hair-like, short, in the tubular florets only. *Anthers* united into a cylindrical tube. *Germen* angular, abrupt. *Style* thread-shaped, not longer than the anthers. *Stigmas* spreading, blunt, somewhat notched. *Seed-vessel* none, the calyx remaining unchanged. *Seed* (fig. 4.) in all the florets oblong, angular, abrupt, furrowed, crowned with an elevated membranous border. *Receptacle* (fig. 6.) naked, convex.

Distinguished from other genera, with strap-shaped marginal florets and a naked receptacle, in the same class and order, by the elevated membranous border which crowns the seed; and the hemispherical, imbricated calyx, whose scales are rather acute and membranous at the edges.

Three species British.

PY'RETHRUM PARTHE'NIUM. Common Feverfew.

SPEC. CHAR. Leaves stalked, compound, flat, leaflets egg-shaped, cut, the uppermost confluent (running one into the other at the base). Flower-stalks corymbose. Stem upright. Rays shorter than the diameter of the disk.

Engl. Bot. t. 1231.—Sm. Fl. Brit. v. ii. p. 900. Eng. Fl. v. iii. p. 451.—With. (7th ed.) v. iii. p. 951.—Hook. Brit. Fl. p. 365. Fl. Scot. p. 246.—Relh. Fl. Cant. (3rd ed.) p. 349.—Grev. Fl. Edin. p. 180.—Fl. Devon. pp. 140 & 160.—

Fig. 1. Involucrum.—Fig. 2. Tubular floret of the Disk.—Fig. 3. Strap-shaped floret of the Ray.—Fig. 4. Seed.—Fig. 5. Receptacle, with the seed upon it.—Fig. 6. Receptacle, with the seed taken off.—Figs. 2 & 4 magnified.

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* From its resemblance to the *Purethron*, Gr. of Dioscorides, so called from *pur*, *fire*, on account of its acrid roots. Dr. HOOKER, in Br. Fl.

† The 19th class in the Linnean System, comprehending all those plants with compound flowers, the stamens of which are united by their anthers into a tube. It is a very natural and extremely numerous class.

‡ The second order of the Linnean class SYNGENE'SIA, containing all those compound flowers in which the *florets of the disk* have, each of them, 5 stamens and a pistil, and the *florets of the ray* a pistil only, and all producing perfect seed.

§ See *Prenanthes muralis*, t. 27. || See *Achillea Ptarmica*, t. 36.

Johnston's Fl. of Berwick, v. i. p. 188.—Walk. Fl. of Oxf. p. 245.—Mack. Catal. of Pl. of Ireland, p. 74.—*Chrysánthemum Parthénium*, Linn. Syn. p. 148.—Bab. Fl. Bath. p. 26.—*Matricária Parthénium*, Linn. Sp. Pl. p. 1255.—Huds. Fl. Angl. (2nd ed.) p. 371.—Woodv. Med. Bot. Suppl. t. 249.—Lightf. Fl. Scot. v. i. p. 490.—Sibth. Fl. Oxon. p. 258.—Abbot's Fl. Bedf. p. 185.—Purt. Midl. Fl. v. ii. p. 401.—*Matricária vulgáris*, Gray's Nat. Arr. v. ii. p. 454.—*Matricária*, Ray's Syn. p. 187.—Johnson's Gerarde, p. 652.

Localities.—In waste ground, about hedges, old walls, dry banks, &c.—Frequent.

It is rather rare about Oxford; I have seen it only on the walls of St. John's College Gardens, and between the Parks and Summer Town. The Rev. R. Walker has noticed it on a wall at Headington near Oxford, in the lane leading to Barton.

Biennial.—Flowers from June to November.

Root fibrous, tufted. *Stem* round, upright, firm, branched, leafy, furrowed, especially in the upper part, slightly hairy, 2 or 3 feet high. *Leaves* alternate, stalked, of a pale yellowish green, slightly hoary, and when magnified appear sprinkled with minute spangles, once or twice pinnate or pinnatifid; the leaflets, or segments, somewhat egg-shaped, decurrent, cut. *Panicle* corymbose, sometimes compound. *Flower-stalks* 2 or 3 inches long, furrowed, a little hoary, single flowered, swelling upwards. *Flowers* upright, about half an inch broad. *Florets* of the disk very small, crooked, yellow at the summit, and sprinkled with minute shining particles; those of the ray short, broad, abrupt, 2-ribbed, often wanting. *Seeds* crowned with a short membrane. Whole plant bitter, and strong scented.

"In natural affinity it ranks with the *common Chamomile* and *Tansy*, and its sensible qualities shew it to be nearly allied to them in its medicinal character; it possesses similar virtues with the former plant, only milder in its effects. The expressed juice is used as a vermifuge. It has been likewise recommended as a febrifuge; hence its English name," *Feverfew*. Purton's *Midl. Fl.* v. ii. p. 401.

A decoction of the plant is reckoned tonic, stimulating, and anti-hysteric. It yields an oil by distillation.

A variety with a double flower is sometimes cultivated in gardens.





LYCÓPSIS ARVÉNSIS. *WILD BUGLOSS* ○

LYCO'PSIS*.

Linnean Class and Order. PENTA'NDRIA†, MONOGY'NIA.

Natural Order. BORAGI'NEÆ, Juss. Gen. Pl. p. 128.—Sm. Gram. of Bot. p. 102.—Lindl. Syn. p. 163; Introd. to Nat. Syst. p. 241.—Rich. by Macgilliv. p. 440.—Loud. Hort. Brit. p. 527.—ASPERIFO'LIÆ, Linn. Gen. Pl. 6th edit.—Sm. Engl. Fl. v. i. p. 247.

GEN. CHAR. *Calyx* (fig. 1.) inferior, monosepalous (of 1 sepal), deeply divided into 5, oblong, pointed, upright, or somewhat spreading segments, permanent. *Corolla* (figs. 2 & 3) monopetalous (of 1 petal), funnel-shaped; *Tube* cylindrical, doubly bent, the mouth closed with 5 blunt, convex, hairy, approaching valves; *Limb* in 5 rather deep, rounded segments, sometimes slightly irregular. *Filaments* 5, very small, within the tube, at its uppermost curvature. *Anthers* oblong, incumbent. *Germens* (fig. 4.) 4. *Style* (fig. 4.) thread-shaped, as long as the stamens. *Stigma* blunt, notched. *Seeds* (figs. 5 & 6) 4, egg-shaped, angular, with a bordered scar, attached to the base of the enlarged swelling calyx.

The funnel-shaped *corolla* with a doubly bent tube, the mouth closed with concave, blunt valves, and the *seeds* concave at the base, will distinguish this from other genera with a monopetalous, inferior corolla, and four (apparently) naked seeds, in the same class and order.

One species British.

LYCO'PSIS ARVE'NSIS. Small Bugloss.

SPEC. CHAR. Leaves spear-shaped, wavy, somewhat toothed, very bristly. Calyx upright while in flower. Limb of the corolla slightly unequal.

Eng. Bot. t. 938.—Curt. Fl. Lond. t. 336.—Linn. Sp. Pl. p. 199.—Huds. Fl. Angl. (2nd edit.) p. 82.—Sm. Fl. Brit. v. i. p. 221. Eng. Fl. v. i. p. 267.—With. (7th edit.) v. ii. p. 286.—Lindl. Syn. p. 165.—Hook. Brit. Fl. p. 82.—Lightf. Fl. Scot. v. i. p. 135.—Sibth. Fl. Oxon. p. 71.—Abbot's Fl. Bedf. p. 43.—Purt. Midl. Fl. v. i. p. 110.—Relh. Fl. Cant. (3rd ed.) p. 83.—Hook. Fl. Scot.

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. Corolla cut open, longitudinally, to show the situation of the 5 stamens and scales.—Fig. 4. Germen, Style, and Stigma.—Fig. 5. Calyx and 4 Seeds.—Fig. 6. Two of the Seeds.—Fig. 3. is a little magnified.

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* From *lukos*, Gr. *a wolf*, and *opsis*, Gr. *a face*; from a fancied resemblance in the gaping flower to the head of a wolf. Dr. HOOKER.

Dr. LEHMANN, Professor of Botany at Hamburgh, and author of a classical revision of the Asperifoliæ, in 2 volumes quarto, intitled *Plantæ e Familia Asperifoliarum Nuciferæ*, published at Berlin in 1818, has reduced this genus to *Anchusa*, (see p. 48 of this work,) with which it agrees in the bordered scar of the *seed*; but the curvature of the *tube* affords a remarkable and constant character, on which account Sir J. E. SMITH, Dr. HOOKER, Dr. WITHERING, and Dr. LINDLEY, have kept them distinct.

† See *Atropa Belladónna*, p. 10, note †.

p 7 .—Grev. Fl. Edin. p. 47.—Fl. Devon. pp. 35 & 152.—Johnston's Fl. of Berw. v. i. p.54—Walk. Fl. of Oxf. p. 51.—Mack. Catal. of Pl. of Ireland, p. 21.—*Buglossa arvensis*, Gray's Nat. Arr. v. ii. p. 351.—*Buglossa sylvestris minor*, Ray's Syn. p. 227.—Johnson's Gerarde, p. 799.

Localities.—In corn-fields, waste ground, and on dry banks, especially where the soil is light and sandy.—Common.

Annual.—Flowers in June, July, and August.

Root simple, fibrous, whitish. Whole *plant* harsh, rough, and bristly; hairs or bristles arising from a white callous tubercle. *Stem* upright, thick, round, or slightly angular, leafy, from 18 inches to 2 feet high, usually branched at top only. *Leaves* alternate, light green, single ribbed, wavy, somewhat toothed; the lower ones bluntest, tapering down into footstalks; upper ones sessile, or clasping the stem. *Clusters* in pairs, forked, revolute, leafy; upright when in fruit. *Partial-stalks* upright, shorter than the calyx. *Calyx* very bristly; segments oblong, acute, upright, spreading as the *seed* ripens. *Corolla* sky-blue; *tube* and *scales* white; *Limb* a little irregular, and inclining. *Seeds* large, hard, nearly black, egg-shaped, pointed, wrinkled and granulated. *Corolla* sometimes varies to white.

A very minute parasitical fungus, *Erysiphe Asperifoliórum*, of Dr. Greville's *Flora Edinensis*, is sometimes found on the stem and leaves of this plant in the neighbourhood of Oxford, in the Autumn.

M. Jean Fontana, Member of the Academy of Turin, has strongly recommended the application of *Lycópsis arvénsis*, bruised and pounded, to the worst kind of carbunculous ulcerations; but the practice, says Dr. Withering, has not attracted much attention in England.



DIDYNAMIA GYMNOSPERMIA SAGE 2

TEU'CRIUM*.

Linnean Class and Order. DIDYNA'MIA†, GYMNOSPE'RMIA‡.

Natural Order. LABIA'TÆ. Juss. Gen. Pl. p. 110.—Sm. Gram. of Bot. p. 99.; Engl. Fl. v. iii. p. 63.—Lindl. Syn. p. 196; Introd. to Nat. Syst. p. 239.—Bentham, in Bot. Regist. folios 1282, 1289, 1292, and 1300.—Rich. by Macgilliv. p. 439.—Loud. Hort. Brit. p. 528.—VERTICILLA'TÆ, of Ray and of Linnæus.

GEN. CHAR. *Calyx* (fig. 1.) monosepalous (of 1 sepal), inferior, somewhat bell-shaped, a little unequal, tumid at the base, the limb deeply divided into 5 pointed segments. *Corolla* (fig. 2.) monopetalous (of 1 petal), ringent (gaping); *tube* cylindrical, short, curved upwards; *upper lip* apparently wanting, being divided to the very base into 2 distant, egg-shaped, oblong, ascending, lateral lobes; *lower lip* spreading, 3-lobed, the central lobe the largest, flat or concave, undivided or cloven. *Filaments* (fig. 3.) 4, 2 longer than the other 2 (didynamous), awl-shaped, much longer than the upper lip of the corolla, and projecting between its segments, ascending, incurved. *Germen* (fig. 4.) superior, 4-cleft. *Style* (fig. 4.) incurved. *Stigma* in 2 pointed, spreading segments. *Seeds* 4, oblong, rounded, wrinkled, in the bottom of the permanent calyx.

The *upper lip* of the *corolla*, in two very deep, remote, lateral lobes, will distinguish this from other genera with a nearly regular, 5-cleft *calyx*, in the same class and order.

Three species British.

TEU'CRIUM SCORODO'NIA. Wood Sage. Sage-leaved Germander.

SPEC. CHAR. Leaves heart-shaped, stalked, crenate, hairy. Flowers in lateral and terminal, 1-sided, racemes. Stem upright.

Engl. Bot. t. 1543.—Curt Fl. Lond. t. 295.—Linn. Sp. Pl. p. 789.—Huds. Fl. Angl. (2nd edit.) p. 248.—Sm. Fl. Brit. v. ii. p. 606. Engl. Fl. v. iii. p. 68.—With. (7th edit.) v. iii. p. 694.—Lindl. Syn. p. 198.—Hook. Brit. Fl. p. 272.—Light. Fl. Scot. v. i. p. 303.—Sibth. Fl. Oxon. p. 180.—Abbot's Fl. Bed. p. 125.—Purt. Midl. Fl. v. i. p. 273.—Relh. Fl. Cant. (3rd edit.) p. 232.—Hook. Fl. Scot. p. 180.—Grev. Fl. Edin. p. 128.—Fl. Devon. pp. 96 & 143.—Johnston's Fl. of Berw. v. i. p. 129.—Walk. Fl. of Oxf. p. 160.—Perry's Plantæ Varvic. Selectæ, p. 48.—Mack. Cat. of Pl. of Ireland, p. 54.—Bab. Fl. Bath. p. 39.—*Scorodonia solitaria*, Gray's Nat. Arr. v. ii. p. 370.—*Scorodonia seu salvia agrestis*, Ray's Syn. p. 245.—Johnson's Gerarde. p. 662.

LOCALITIES.—In woods, on heaths, and in stony and bushy places, on a sandy soil. Frequent in most counties in ENGLAND, IRELAND, and SCOTLAND.—*Oxfordshire*; Shotover Hill, and Stow Wood: Dr. SIBTHORP.—*Berks*; Bagley Wood, and Cumner Hurst: W. B.—Appleton, and near Reading: Mr. PARKER.—*Bedfordshire*; Aspley, and Ampthill; Rev. C. ABBOT.—*Cambridgeshire*; White Wood near Gamlingay: Rev. R. RETHAM.—*Leicestershire*; Woods near Grooby Pool: Rev. A. BLOXHAM, in Loud. Mag. of Nat.

Fig. 1. Calyx and Bractea.—Fig. 2. Corolla.—Fig. 3. A Stamen.—Fig. 4. Germen, Style, and Stigma.

[In the annexed Plate the Engraver has represented the floral leaves too blunt, they should have been sharp pointed.]

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* From *Teucer*, Prince of Troy, who first employed this plant medicinally, Dr. HOOKER, in Brit. Flora.

† See *Lamium album*, folio 31, note † ‡ See folio 31, note ‡.

Hist. v. iii p. 167.—*Somersetshire;* At Wyck near Bath: Rev. C. C. Babington.—*Surrey;* About Battersea: Mr. W. Pamplin, jun.—*Warwickshire;* Pophill Lane; about Pitchell; Ragley Woods, &c.: Mr. T. Purton. Hatton Wood; road-side between Hatton and Warwick; and between Leek Wootton Field and Stonleigh, &c.: Mr. W. G. Pirry. Side of the Upper Street Road between Rugby and Hillmorton; 1831: W. B.—SCOTLAND. King's Park, Edinburgh: Mr. Yalden. Rosslyn Woods, &c.: Dr. Greville.

Perennial.—Flowers in July and August.

Root woody, somewhat creeping. *Stem* 4-angled, upright, rigid, hairy, from 18 inches to 2 feet high. *Leaves* opposite, stalked, oblong, heart-shaped, very much wringled (rugose), crenate, or bluntly serrate, hairy. *Clusters (racemes)* upright, terminal and axillary. *Flowers* in pairs, growing all one way (unilateral), with a small, egg-shaped, pointed, *floral-leaf* at the base of each partial stalk. *Calyx* 2-lipped, upper lip upright, entire, or slightly 3-lobed; lower lip with 4 rather unequal, sharp-pointed teeth, which are bent inwards. *Corolla* pale yellow, lower lip long, concave, hairy. *Stamens* purple, hairy. *Anthers* yellow.—Whole plant somewhat glutinous, bitter, and smelling very much like hops, especially when bruised.

Mr. Laurents says, (in Young's Annals of Agriculture, v. i. p. 247,) "Seeing so much fine ground under costly hops, I could not but repine at the expence of soil, poles, dung, and labour, bestowed on this plant; especially, when there is great reason to suppose, that the *Teucrium scorodonia* would better answer the purpose. Of this plant, I can so far say, that in smell and taste it resembles hops. Its virtues remain to be ascertained by experience, and may in a great measure be collected from those of its *congeneres*. The name by which it goes in some authors is *Ambrosia*, a name announcing something immortal and divine; and to this day *Ambroise* is the appellation by which it goes among the common people in the island of Jersey. Here, in years when Cider, the common beverage, has failed, I have known the people malt each his barley at home, and, instead of hops, use to very good purpose, the *Ambroise* of their hedges."

Rutty says, that when this herb is boiled in wort, the beer sooner becomes clear, than when hops are made use of. Dr. Withering relates, that upon trial it gave too much colour to the liquor.



ANTIRRHÍNUM CYMBALÁRIA IVY LEAVED SNAPDRAGON 1

LINA'RIA*.

Linnean Class and Order. DIDYNA'MIA†, ANGIOSPE'RMIA.

Natural Order. SCROPHULARI'NEÆ, *Dr. R. Brown.*—Lindl. Syn. p. 187.; Introduct. to Nat. Syst. p. 228.—SCROPHULARI'NÆ, Rich. by Macgilliv. p. 434.—Sm. Eng. Fl. v. iii. p. 115.—Loud. Hort. Brit. p. 528.—SCROPHULA'RIÆ, Juss. Gen. Pl. p. 117.—Sm. Gram. of Bot. p. 100.

GEN. CHAR. *Calyx* (fig. 1.) inferior, deeply divided into 5 oblong, permanent segments, the 2 lower ones rather more distant from each other than the rest. *Corolla* (fig. 2.) personate, spured at the base; upper lip (fig. 3.) cloven, reflexed at the sides; lower lip obtuse, 3-lobed, with an elevated palate, closing the mouth, and hollow underneath. *Filaments* (see fig. 3.) 4, two of them longer than the other two (didynamous,) concealed under the upper lip of the corolla, and sometimes accompanied by a fifth abortive stamen. *Anthers* (see fig. 3.) converging (approaching each other). *Germen* (fig. 4.) roundish, or egg-shaped. *Style* thread-shaped, as long as the stamens. *Stigma* blunt. *Capsule* (figs. 5, 6, & 7.) egg-shaped, or globular, 2-celled, opening with several valves, or teeth, at the apex. *Seeds* numerous, roundish, or angular, or winged, attached to an oblong cylindrical *receptacle (placenta)*, in the middle of the partition.

Distinguished from *Antirrhinum* by the spur at the base of the *corolla*, and by the *capsule* opening by 2 instead of 3 pores; and from all other genera in the same class and order, by the above characters, and by the 5-cleft calyx, the personate corolla, and the 2-celled capsule.

Six species British.

LINA'RIA CYMBALA'RIA. Ivy-leaved Toadflax. Oxford-weed.

SPEC. CHAR. Leaves broadly heart-shaped, 5-lobed, alternate, smooth. Stems trailing.

Miller's Gard. Dict.—Lindl. Syn. p. 191.—Hook. Br. Fl. p. 287.—Curt. Brit. Entomol. v. i. p. 38.—Bab. Fl. Bath. p. 34.—*Antirrhinum Cymbalária*, Linn. Sp. Pl. p. 851.—Eng. Bot. t. 592.—Curt. Fl. Lond. t. 57.—Huds. Fl. Angl. (2nd edit.) p. 271.—Sm. Fl. Brit. v. ii. p. 656. Eng. Fl. v. iii. p. 131.—With. (7th edit.) v. iii. p. 733.—Sibth. Fl. Oxon. p. 194.—Abbot's Fl. Bedf. p. 137.—Purt. Midl. Fl. v. i. p. 288.—Relh. Fl. Cant. (3rd edit.) p. 252.—Hook. Fl. Scot. p. 188.—Grev. Fl. Edin. p. 136.—Fl. Devon. pp. 104 & 147.—Walk. Fl. of Oxf. p. 176.—Perry's Pl. Varvic. Selectæ, p. 52.—Mack. Catal. of Pl. of Irel. p. 58.—*Cymbalaria hederacea*, Gray's Nat. Arr. v. ii. p. 322.—*Cymbalaria Italica*, John. Ger. p. 530.—*Linaria hederaceo folio glabro, seu Cymbalaria vulgaris*, Dill. in Ray's Syn. p. *282.

LOCALITIES.—On old walls, rocks, &c. in many places. Supposed to have escaped originally from gardens.—*Oxfordsh.* Abundant on almost every wall in Oxford. On the walls close to the wooden bridge over the river near the Cottages at Nuneham Courteney near Oxford; and on a wall north of the Church at Burford: W. B. On old walls at Bicester, and Islip, plentifully: Mr. G. WOODWARD.—*Berks;* On the walls of Windsor Castle: Rev. Dr. GOODENOUGH. On the ruins at Park-place: Mr. BICHENO.—*Bedfordsh.* Luton Hooe: Rev. C. ABBOT.—*Cambridgesh.* On the walls of the Great House at Drayton; Bartlow Church; Fulbourn, on the garden wall of R. G. Townly, Esq.: Rev. R. RELHAN.—*Cheshire;* On the road-side at Bank-Top near Stockport: Mr. G. HOLME. Garden walls at Addington: Mr. BRADBURY.—

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. Upper Lip of the Corolla, with the 4 Stamens.—Fig. 4. Germen, Style, and Stigma.—Fig. 5. Unripe Capsule.—Fig. 6. Transverse section of the same.—Fig. 7. Capsule, after the seeds are discharged.

* From *linum*, *flax*, which the leaves of some species resemble.

† See *Lámium album*, folio 31, note †.

[At the bottom of the plate, *for* ANTIRRHI'NUM, read LINA'RIA.]

Derbysh. Wingerworth, Glopwell, and S. Normanton: Mr. Cokf. On an old wall at Pleasly, between Chesterfield and Mansfield: Rev. W. Wood.—*Devon;* On walls in and about Exeter: Mr. Jacob. Walls of the vicarage and churchyard at Widdecombe-in-the-Moor: *Fl. Devon.*—*Dorsetsh.* Frequent on old garden walls: Dr. Pulteney.—*Essex;* On an old wall at Stubbers: Mr. E. Forster, jun. Westham: Mr. T. F. Forster, jun.—*Gloucestersh.* On walls about Clifton: Mr. Dyer.—*Lincolnsh.* On the walls of Burleigh Castle near Stamford: Mr. Woodward.—*Middlesex;* About Chelsea, and other places, frequent, especially adjoining the Thames; the walls of the Physic Garden, Chelsea, are covered with it: Mr. Curtis. Walls at Highgate: Rev. S. Palmer, in Loud. Mag. of Nat. Hist. v. ii. p. 266.—*Shropsh.* On a wall at Oldport near Oswestry: Dr. Evans, and Mr. H. Barrett.—*Somersetsh.* At Brislington, and about Redland Court near Bristol: Dr. Withering. Common on old walls at Bath: Rev. C. C. Babington.—*Surrey;* On walls at Vauxhall, Battersea, and other places by the Thames side: Mr. Hudson. Clapham, Battersea, Wandsworth, &c.: Mr. W. Pamplin, jun. About Egham: Mr. W. A. Delamotte.—*Sussex;* At Chichester: Mr. Borror.—*Warwicksh.* On St. Mary's churchyard wall, and on a wall in Mellos' Lane, Warwick: Mr. W. G. Perry. On the garden walls at Dilton Hall, near Rugby; July 12, 1831: W. B.—*Wilts;* Near Great Bedwyn: Mr. W. Bartlett.—*Worcestersh.* On the Abbey wall at Great Malvern: Mr. Purton.—*Yorksh.* Walls at Coxwold, Newburgh, and Londsborough: Rev. Archdeacon Pierson. On old walls at Pontefract: Mr. Brunton.—Found occasionally in WALES, SCOTLAND, and IRELAND.

Perennial.—Flowers from April to December.

Root fibrous. *Stems* numerous, tufted, thread-shaped, very much branched, trailing, or pendulous, round, smooth, leafy, often purplish. *Leaves* on long footstalks, alternate and opposite, somewhat resembling those of Ivy; 5-lobed, sometimes only 3-lobed; lobes of the upper pointed, of the lower blunt, rather fleshy, of a bright shining green, often purple beneath. *Flowers* solitary, axillary, on long fruit-stalks, bending at the top. *Calyx segments* equal, smooth. *Corolla* small, variegated with violet and blue; palate yellow; spur slender, crooked, a little longer than the calyx. *Capsule* roundish, surface uneven, of 2 cells, opening at top into several segments. *Seeds* black, wrinkled. Whole plant quite smooth.

This very pretty plant is a native of Italy, and is said to have been originally introduced into England by means of its seeds having been brought in some marble sculptures from that country to Oxford, where it has long established itself on the walls of the Colleges, gardens, &c. in such abundance, as to have obtained the name of "Oxford-weed."

The following anecdote, connected with this plant, is recorded by Professor Schultes, to whom it was related by the late learned and amiable Dr. G. Williams, M.D. F.R.S. F.L.S., &c. Professor of Botany in the University of Oxford.—When Linnæus visited England in 1736, "he presented himself at Oxford to Dillenius and Sherard, being then a very young man, and his system having as yet made but little noise in the world of science. The latter received him with cordiality; but Dillenius was very cool, and said to Sherard, 'this is the young fellow who is putting all Botanists and Botany into confusion.' Linnæus did not understand the English language, in which this remark was made, but yet he recognized in the word *canfiuschjen* (so pronounced by Dillenius in his German accent), the Latin epithet *confusio*. He was silent: Sherard and Dillenius walked up and down in the garden with their new acquaintance, and stopped by a wall overgrown with *Antirrhinum (Linaria) Cymbalaria;* a plant upon which they were desirous to have the opinion of Linnæus, as much doubt had existed respecting it. Linnæus removed these difficulties with his natural perspicuity. The gentlemen again pointed to a second, and a third plant, of which they felt uncertain; and again the Swede explained the dubious points with perfect ease. Dillenius was surprised; and Sherard observed to him, that he could perceive 'no confusion at all' in Linnæus. He invited the stranger to dine with him; and during the several days that Linnæus remained in Oxford, he found that the dislike which Dillenius had at first entertained towards him, wore gradually away, and gave place to esteem and friendship. On taking leave, Linnæus remarked to Dillenius, that he should be very sorry to have brought *confusion* into the garden at Oxford. Dillenius blushed, and apologized for the hasty word which had escaped his lips." Schultes's *Botanical Visit to England;* published in Dr. Hooker's *Botanical Miscellany*, v. i. p. 48—78.



TANACÉTUM VULGÁRE. *COMMON-TANSY.* 2/

Ruyell. Del.

TANACE'TUM*.

Linnean Class and Order. SYNGENE'SIA†, POLYGA'MIA, SUPE'RFLUA‡.

Natural Order. COMPO'SITÆ§. Tribe, CORYMBI'FERÆ||. *Juss.* —Lind. Syn. pp. 140 & 142; Introd. to Nat. Syst. pp. 197 & 199.—COMPO'SITÆ; suborder, ANTHEMI'DEÆ. Loud. Hort. Brit. pp. 520 & 522.—SYNANTHE'REÆ; tribe, CORYMBI'FERÆ. Rich. by Macg. pp. 454, 455.—CORYMBI'FERÆ, sect. 4. Juss. Gen. Pl. pp. 177 & 184.—Sm. Gram. of Bot. pp. 121 & 123; Eng. Fl. v. iii. p. 334.

GEN. CHAR. *Involucrum (common calyx)* (fig. 4.) hemispherical, imbricated (tiled), of numerous, oblong, close scales, the innermost membranous at the margin. *Corolla* compound; of two kinds of *florets;* those of the *disk* (figs. 2 & 3.) numerous, perfect (having both stamens and a pistil), tubular, regular, level-topped, with a 5-cleft limb; those of the *ray* (fig. 1.) few, sometimes wanting, tubular at the base, their limb flat, spreading, slightly prominent, 3-cleft, without stamens. *Filaments* (see fig. 3.) in the florets of the disk only, hair-like, very short. *Anthers* united into a cylindrical tube. *Germen* in all the florets inversely egg-shaped, compressed. *Style* thread-shaped, as long as the stamens. *Stigmas* (see figs. 1 & 2.) a little prominent, recurved, obtuse. *Seed-vessel* none. *Seed* (fig. 5.) oblong, angular, crowned with a slight membranous border, or pappus. *Receptacle* (see fig. 4.) convex, dotted, naked.

The imbricated, hemispherical *calyx;* the 3-cleft, tubular florets of the circumference (these florets are sometimes wanting); the naked *receptacle*, and the *seed* crowned with a membranous, entire border; will distinguish this from other genera in the same class and order.

One species British.

TANACE'TUM VULGA'RE. Common Tansy.

SPEC. CHAR. Leaves doubly pinnatifid, cut, serrated, naked.

Engl. Bot. t. 1229.—Linn. Spec. Pl. p. 1184.—Huds. Fl. Angl. (2nd. edit.) p. 357.—Sm. Fl. Brit. v. ii. p. 862. Engl. Fl. v. iii. p. 405.—With. (7th edit.) v. iii. p. 920.—Woodv. Med. Bot. v. ii. p. 314. t. 115.—Gray's Nat. Arr. v. ii. p. 448.—Lind. Syn. p. 149.—Hook. Brit. Fl. p. 355.—Lightf. Fl. Scot. v. i. p. 465.—Sibth. Fl. Oxon. p. 249.—Abbot's Fl. Bedf. p. 179.—Purt. Midl. Fl. v. ii. p. 392.—Relh. Fl. Cant. (3rd edit.) p. 335.—Hook. Fl. Scot. p. 239.—Fl. Devon. pp. 136 & 158.—Johnston's Fl. of Berwick, v. i. p. 180.—Walk. Fl. of Oxf. p. 235.—Perry's Fl. Varvic. Selectæ, p. 69.—Mack. Catal. of Pl. of Irel. p. 72.—Bab. Fl. Bath. p. 27.—*Tanacetum*, Ray's Syn. p. 188.—Johns. Ger. p. 650.

LOCALITIES.—Mountainous meadows, hilly pastures, road-sides, hedges, and banks of rivers. Not very common, but found, more or less, in most counties in England.—*Oxfordsh.* Shotover-hill, and Southleigh: Dr. SIBTHORP. Headington-wick Copse near Oxford: Rev. RICHARD WALKER.—*Berks;* Near Ap-

Fig. 1. A 3-cleft Floret of the Ray, with the projecting style, and cloven, recurved Stigma.—Fig. 2. A 5-cleft Floret of the Disk.—Fig. 3. A Floret of the Disk cut open to show the 5 united Anthers.—Fig. 4. Calyx and Receptacle.—Fig. 5. A Seed.—All, except fig. 4, magnified.

* Altered from *Athanasia*; being *a*, Gr. *not*, and *thanatos*, Gr. *death*, or that which does not easily fade. Dr HOOKER, in Br. Fl.

† See *Pyrethrum Parthenium*, folio 20, 2nd edit. note †.

‡ See folio 20, 2nd ed. note ‡. § See folio 27. || Fol. 36 a.

pleton: Mr. H. Barratt.—*Bedfordsh.* Bromham Grange: Rev. C. Abbot.—*Cambridgesh.* Cottenham: Rev. R. Relhan.—*Cheshire;* Meadows about Bellow-hill near Whitchureh, abundantly: Mr. Vernon, in Blacks. Sp. Bot.—*Devon.* About Teignmouth, and Torquay: Dr. Withering. Teverton, Chudleigh, Moreton, North Bovey, Marychurch, and Kingskerwell: Rev. A. Neck, in Fl. Devon.—*Essex;* About Woodford: Mr. R. Warner, in Pl. Woodf.—*Kent;* Near Queen Court and Uplees: Mr. Jacob.—*Lancash.* Banks of the Irwell, and other places about Manchester: Mr. Caley.—*Leicestersh.* Glenfield near Charnwood Forest: Rev. A. Bloxam, in Loud. Mag. of Nat. Hist. v. iii. p. 267.—*Notts;* In Nottingham Park, and in closes about Mansfield: Dr. Deering.—*Somersetsh.* Between Piper's Hill and Bridgewater, and among the cliffs at Cheddar: Dr. Withering. On the banks of the Avon near Henham and Keynsham: Mr. F. Russell, in With. Bot. Arr.—In *Surrey:* Mr. W. Pamplin, jun.—*Warwicksh.* Oversley; opposite Alcester Mill, on the side of the turnpike road; near to Hertford Bridge, (Alcester): Mr. Purton, in Midl. Fl. Between Leamington and Kenilworth: Mr. Smith, in Perry's Pl. Varv. Selectæ. Saint Mary's Church-yard and College walls, Warwick; side of the Avon between Nicholas' Meadow and the Aqueduct, Warwick; Hatton Hill, &c.: Mr. W. G. Perry, in Pl. Varv. Selectæ. Plentiful in a lane called Marygreen, and in hedges near it, at Hillmorton, near Rugby, July 6, 1831: also about half a mile from Rugby on the road to Clifton: W. B.—*Wilts;* Near Great Bedwyn: Mr. W. Bartlett.—*Worcestersh.* On the banks of the Severn near Worcester: Mr. Edwin Lees, in Loud. Mag. Nat. Hist. v. iv. p. 441.—WALES. *Anglesey;* By the side of a rill between Penmon Church and the sea: Welsh Bot.—SCOTLAND. About Glasgow: Dr Hooker.—IRELAND. By the Old Church at Howth, plentiful: Mr. J. T. Mackay.

Perennial.—Flowers in July and August.

Root somewhat creeping. *Stem* upright, from 18 inches to 3 feet high, scored, leafy, solid, unbranched, smooth, sometimes reddish. *Leaves* alternate, clasping the stem, doubly and deeply pinnatifid, sharply serrated, dark green, smooth. *Flowers* numerous, flattish, of a golden yellow, forming dense terminating corymbs. The *Florets* of the ray scarcely apparent, often wanting. *Calyx-leaves* blunt, membranous at the edge. *Seeds* 5-angled, crowned with a slightly 5-toothed membranous margin. A curled-leaved variety is cultivated in gardens.

Tansy is bitter, and aromatic, and its flavour not ungrateful. It is often cultivated in gardens for culinary purposes; and the tender leaves and juice are sometimes used to give a colour and flavour to puddings. This plant is said to flourish luxuriantly on the banks of the Avon, near Henham and Keynsham, where Mr. Frederick Russell observed boys gathering a boat-load of it to convey to Bristol for the purpose of making wine. Tansy has been much used as a vermifuge, and testimonies of its efficacy are given by many respectable physicians: not only the leaves, but the seeds have been employed with this intention, and substituted for those of Santonicum.

We are told by Dr. Clark, that in Scotland Tansy was found to be of great service in various cases of gout; and Dr. Cullen, who afterwards was informed of the effects it produced upon those who had used the herb for this purpose, says, "I have known several who have taken it without any advantage, and some others who reported that they had been relieved from the frequency of their gout." The plant may be taken in powder to the quantity of a dram, or more, for a dose; but it has been more commonly taken in infusion, or drank as tea.

Dr. Threlkeld, in his *Synopsis Stirpium Hibernicarum*, relates the case of a soldier at Montpelier, who had an obstinate dropsy, of which he was cured only by a decoction of Tansy.

Of the juice of the tender leaves, with eggs, are made cakes, called a *Tansy*, used at the Paschal season by Papists, to dissipate the flatulences occasioned by what Dr. Threlkeld terms, "the idle conceit of eating fish and pulse for forty days in Lent; but (says the Doctor) I have seen several victims to superstition, who have broken a hale constitution by that presumptuous fasting, so that neither Tansy nor steel could repair it."

If a dead animal substance be rubbed with Tansy, the flesh-fly will not attack it. The Finlanders obtain a green dye from it. Cows and sheep eat this plant; horses, goats, and swine refuse it. It affords nourishment to *Aphis Tanaceti*, and *Chrysomela Tanaceti*, Linn. Also to *Andrena albicans*, and *tibialis*. See Woodville's *Med. Bot.* and Withering's *Bot. Arr.*



MÁLVA MOSCHÁTA

MA'LVA*.

Linnean Class and Order. MONADE'LPHIA, POLY'ANDRIA.

Natural Order. MALVA'CEÆ, Juss. Gen. Pl. p. 271.—Sm. Gram. of Bot. p. 148.—Lindl. Syn. p. 40; Introd. to Nat. Syst. p. 33.—Rich. by Macgilliv. p. 476.—Loud. Hort. Brit. p. 502.

GEN. CHAR. *Calyx* (fig. 1.) double, permanent; *outer* smallest, of 3 egg-shaped, pointed leaves; *inner* of 1 leaf, divided half way down into 5 broad segments. *Petals* (fig. 7.) 5, inversely heart-shaped, abrupt, flat, their claws attached to the tube formed by the stamens. *Filaments* (fig. 3.) numerous, hair-like, united below into a tube. *Anthers* (fig. 5.) kidney-shaped. *Germen* round, flat. *Style* (fig. 4.) cylindrical. *Stigmas* numerous, bristle-shaped, about as long as the style. *Capsules* as many as the stigmas, flat, 2-valved, 1-celled, ranged in a circle round the columnar *receptacle*, finally deciduous. *Seeds* solitary, kidney-shaped.

Distinguished from *Althæa* and *Lavatera* by its outer calyx of three distinct leaves.

Three species British.

MA'LVA MOSCHA'TA. Musk Mallow.

SPEC. CHAR. Stem upright, lower leaves kidney-shaped, in 5 or 7 broad cut lobes. Stem-leaves with 5 deeply wing-cleft, jagged segments. Stem and Calyx scabrous from simple hairs.

Eng. Bot. t. 754.—Curt. Fl. Lond. t. 228.—Bot. Mag. v. xlix. t. 2298.—Linn. Sp. Pl. p. 971.—Huds. Fl. Angl. (2nd ed.) p. 308.—Sm. Flora Britannica, v. ii. p. 741. Eng. Fl. v. iii. p. 247.—With. (7th ed.) v. iii. p. 810.—Lindl. Syn. p. 40.—Hook. Br. Fl. p. 314.—Lightf. Fl. Scot. v. i. p. 376.—Sibth. Fl. Oxon. p. 216.—Abbot's Fl. Bedf. p. 151.—Relh. Fl. Cant. (3rd ed.) p. 282.—Purt. Mid. Fl. v. i. p. 324.—Hook. Fl. Scot. p. 209.—Grev. Fl. Edin. p. 152.—Smith's Plants of South Kent, p. 38.—Fl. Devon. pp. 117 & 179.—Johnston's Fl. of Berwick, v. i. p. 153.—Perry's Pl. Varv. Selectæ, p. 59.—Walk. Fl. of Oxf. p. 202.—Bab. Fl. Bath. p. 9.—Mack. Catal. of Pl. of Hel. p. 64.—*Alcea tenuifolia crispa;* Dillenius, in Ray's Syn. p. 253.

LOCALITIES.—Meadows, pastures, road-sides, hedge-banks, woods, &c.—On a gravelly soil.—Not unfrequent in most parts of Britain, especially in the Midland Counties.—*Oxfordsh.* Culham Heath, Southleigh, and between Witney and Burford: Dr. SIBTHORP. Road-side between Woodstock Park and Stonesfield; between Stonesfield and Ashford Mills; and between Ashford Mills and the Leathern Bottle public house; July 30, 1831. On a bank close to the river Evenlode, between Church Handborough and Ensham: W. B. In woods and fields at Church Handborough: Mr. W. TEW, 1832. Headington, near Oxford: Mrs. LORINA WALKER, in Walk. Fl. of Oxf. Stoke Spinny Wood, and Gravenhill Wood, plentifully: Mr. G. WOODWARD. On the outside of Wootton Wood, and in a lane between Tackley and Rousham: Miss ARMETRIDING. Near Alvescott: Mr. H. BARRETT.—*Berks;* Cumnor Hurst, and Bagley Wood: W. B.—*Bedfordsh.* About Milton, Clapham, and Bletsoe: Rev. C. ABBOT.—*Cambridgesh.* Kingston Wood, and Linton: Rev. R. RELHAN.—*Devon;* Meadows and hedges, frequent: Messrs. JONES and KINGSTON.—*Kent;* On the rugged hill side near Lymne Castle, and by the road side at Lyminge: Rev. G. E. SMITH.—*Leicestersh.* About Grooby Pool, near Leicester: Rev. A. BLOXAM, in Loud. Mag. of Nat. Hist. v. iii. p. 167.—*Surrey;* About Battersea: Mr. W. PAMPLIN, jun.—*Somersetsh.* At Hampton Rocks, Warley,

Fig. 1. Calyx.—Fig. 2. The same, showing the circular arrangement of the Capsules.—Fig. 3. Stamens, Style, and Stigmas.—Fig. 4. Style and Stigmas, after the Stamens are removed.—Fig. 5. An Anther.—Fig. 6. An Anther, after shedding its Pollen.—Fig. 7. A Petal.

* Altered from *Malache*, Gr. *soft*, in allusion to the emollient nature of the species. Dr. HOOKER.

Inglishcombe, &c.: Rev. C. C. Babington.—*Warwicksh.* King's Coughton, and fields between Coughton Court and Alcester: Mr. Purton. Near Stonleigh, Hatton, and on the Stratford and Kenilworth roads to Warwick, &c.: Mr. W. G. Perry.—*Wilts;* Common near Great Bedwyn: Mr. John Bartlett.—*Worcestersh.* In a wood on the summit of Abberley Hill, west of Abberley Church; and in hedges about Bewdley: Mr. W. G. Perry, in Loud. Mag. of Nat. Hist. v. iv. p. 451.—*Yorksh.* Near Richmond, both rose-coloured and white: T. E. L. in Loud. Mag. of Nat. Hist. v. iv. p. 71.—SCOTLAND. About Dunbarton Castle: Mr. Hopkirk, in Hook. Fl. Scot. Lasswade, near Edinburgh: Mr. Maughan, in Grev. Fl. Edin.—IRELAND. Near Enniskerry, and in the County of Kilkenny: Mr. J. T. Mackay.

Perennial.—Flowers in July and August.

Root whitish, tough, and somewhat woody. *Stem* 2 or 3 feet high, nearly upright, round, leafy, hollow, slightly branched. *Root-leaves* on long stalks, roundish, kidney-shaped, cut into 3 or 5 main lobes, each of which is frequently again 3-lobed and cut, soon withering away. *Stem-leaves* divided to the very base into 5 wing-cleft (pinnatifid) lobes, the segments of which are all strap-shaped, pointed, channelled, sometimes wavy (undulated), and in some degree hairy, seldom quite smooth. *Flowers* large and handsome, rose coloured, sometimes white; produced towards the top of the stems and branches, on long, axillary, simple stalks. *Calyx* double, paler than the foliage, coarsely hairy, or bristly; its three outer leaves (*sepals*) strap-spear-shaped. *Petals* wedge-shaped, slightly cloven, jagged. *Filaments* numerous, united below into a whitish, hairy, cylindrical tube (monadelphous), separate at the top, and bending back. *Anthers* kidney-shaped, changing from flesh-coloured to purple, and then to bluish. *Capsules* numerous.—Whole plant clothed, more or less, with spreading, simple, not starry hairs, unaccompanied by any short dense woolly pubescence. In hot weather, or when drawn lightly through the hand, it generally, though not always, yields a faint musky odour. The present is less mucilaginous than the other British species, and is seldom used in medicine; but the beauty of its blossoms entitle it to a place in the flower garden. It has, by some Botanists, been confounded with the *Vervain Mallow*, *Malva Alcea* of Linnæus; but it may be distinguished from that species by the hairs on the plant being simple, the root-leaves kidney-shaped, and the 3 outer leaves of the calyx being spear-shaped. In *M. Alcea* the hairs on the plant are starry, the root-leaves angular, and the 3 outer leaves of the calyx egg-shaped.

The white flowered variety of *M. Moschata*, which is sometimes cultivated in gardens, has been observed by Mr. Dillwyn, in fields near Eyethorn, in Kent; and by Mr. John Bartlett, by the roadside near Bedwin, Wilts.

All the species of this genus, as well as of the genera *Althæa* and *Lavatera*, are mucilaginous and emollient, and are said to be totally destitute of all unwholesome qualities. The fibres of the *Mallows* are particularly beautiful; in some of the species they are finer than camel's hair, and are easily procured by maceration. "The *farina* is a pretty microscopic object, appearing toothed like the wheel of a watch." *Linn.*—"It is globular, and covered with prickles, which give it the toothed appearance." *Withering.*

In the Language of Flowers the *mallow* is used as symbolical of a sweet and mild disposition.



VERBÉNA OFFICINÁLIS.
COMMON VERVAIN. L.

VERBE'NA *.

Linnean Class and Order. DIDYNA'MIA †, GYMNOSPE'RMIA ‡.

Natural Order. VERBENA'CEÆ, *Juss.*—Lind. Syn. p. 195; Introd. to Nat. Syst. of Bot. p. 238.—Rich. by Macgilliv. p. 438.—Loud. Hort. Brit. p. 529.—VITICES, sect. 2. Juss. Gen. Pl. pp. 106 & 108.—Sm. Gram. of Bot. p. 98.

GEN. CHAR. *Calyx* (fig. 1.) of 1 leaf, tubular, angular, with 5 teeth, one of which is shorter than the rest. *Corolla* (fig. 2.) of 1 petal, unequal; *tube* cylindrical, twice as long as the calyx, straight in the lower half, dilated and curved in the upper. *Limb* spreading, in 5 deep, rounded, nearly equal segments. *Filaments* 4, in some species only 2, slender, very short, incurved, within the tube of the corolla, 2 of them shorter. *Anthers* incumbent, of 2 rounded lobes. *Germen* (fig. 4.) superior, 4-cornered. *Style* slender, as long as the tube. *Stigma* blunt. *Seeds* 2 or 4, oblong, angular, roughish, inclosed in one thin, membranous, evanescent *pellicle.*

Distinguished from other genera in the same class and order, by the shorter upper tooth of the calyx, the curved, and nearly equal corolla, and the stamens inclosed in the tube.

One species British.

VERBE'NA OFFICINA'LIS. Vervain. Simpler's Joy.

SPEC. CHAR. Stamens 4. Spikes slender, panicled. Leaves deeply cut. Stem mostly solitary.

Eng. Bot. t. 767.—Curt. Fl. Lond.—Linn. Sp. Pl. p. 29.—Huds. Fl. Angl. (2nd ed.) p. 249.—Sm. Fl. Brit. v. ii. p. 608. Eng. Fl. v. iii. p. 71.—With. (7th ed.) v. iii. p. 696.—Gray's Nat. Arr. v. ii. p. 390.—Lind. Syn. p. 196.—Hook. Br. Fl. p. 290.—Lightf. Fl. Scot. v. i. p. 78.—Sibth. Fl. Oxon. p. 181.—Abbot's Fl. Bedf. p. 127.—Purt. Mid. Fl. v. i. p. 56.—Relh. Fl. Cant. (3rd ed.) p. 233.—Hook. Fl. Scot. p. 190.—Grev. Fl. Edin. p. 138.—Fl. Devon. pp. 106 & 143.—Walk. Fl. of Oxf. p. 162.—Perry's Pl. Varvic. Selectæ, p. 43.—Bab. Fl. Bath. p. 40.—*Verbena Vulgaris,* Ray's Syn. p. 236.—*V. Communis,* Johnson's Gerarde, 718.

LOCALITIES.—By road-sides, on stone walls, and in dry waste ground, or pastures, about villages.—Common in some parts of England.—About Oxford, and Rugby, but rather uncommon: W. B.—Not common in Ireland, and very rare in Scotland.—Plentiful near Cork: Mr. DRUMMOND.—Very abundant by waysides near Killarney, and sparingly at Killmacannick, county of Wicklow: Mr. J. T. MACKAY, in Catalogue of the Plants found in Ireland.—At Inverkeithing, Scotland: Dr. PARSONS, in Fl. Scot.

Perennial.—Flowers from July to October.

Root woody, somewhat creeping. *Stem* curved at the base, then upright, from 1 to 2 feet, or more, high, square, leafy, rough with small prickles or bristles. *Leaves* roughish, variously jagged, or pinnatifid, the upper ones 3-cleft, or simple, tapering at the base

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. Corolla cut open to show the situation of the Stamens.—Fig. 4. Germen, Style, and Stigma.—All magnified.

* From the Celtic name *Ferfaen,* and probably referring to its use in the rites of heathen worship, and the idolatrous sacrifices of the Pagans. WITHERING.

LINNÆUS placed this genus in the class Diandria, because some of its species have only 2 stamens; but as the species found in Britain has always 4, it is, by most English Botanical authors, placed in the class Didynamia, where the English Botanist would expect to find it.

† See *Lamium album,* fol. 31, note †. ‡ Idem, note ‡.

into short, broad, footstalks. *Spikes* several, opposite, and terminal, stalked, slender, pointed, lengthening out after flowering, and forming altogether a kind of panicle. *Flowers* numerous, small, sessile, bluish, each accompanied by a small egg-shaped pointed floral leaf (*bractea*), shorter than the calyx. *Stamens* 4, two of them shorter than the other two (*didynamous*). *Seeds* blunt, dotted with minute hollows; when young they are inclosed in one common skin, or *pellicle*, which is obliterated as they ripen.

Among the Ancients the *Verbéna Officinális*, or common *Vervain*, was held in great veneration, especially by the Priests of Rome, of Gaul, and of Greece, the Magi of India, and the Druids of Britain. Many peculiar rites were observed by them at the gathering of this plant. After libations of honey had been poured forth, it was gathered with much solemn ceremony at the rising of the dog-star, when neither sun nor moon shone. In digging it up, the left hand only was used. It was then waved aloft, and the leaves, stalk, and root were dried separately in the shade, and thus prepared it was believed to be capable of curing the bite of all rabid animals, and arresting the progress of the venom of serpents; the root, suspended about the neck as an amulet, was recommended as a sovereign medicine for the king's evil, and a variety of diseases. It was also used in sacrificial rites and incantations; and chaplets of it were worn by Ambassadors and Heralds at Arms, on denouncing war, or conveying messages of defiance. It was likewise considered a charm to conciliate friendship :—

Pliny

> "There are fairer flowers that bloom on the lea,
> And give out their fragrant scent to the gale;
> But the *vervain*, with charmed leaf, shall be
> The plant of our choosing, though scentless and pale.
>
> For, wrapp'd in the veil of thy lowly flower,
> They say that a powerful influence dwells,
> And that, duly cull'd in the star-bright hour,
> Thou bindest the heart by thy powerful spells.
>
> We will plant thee beneath our sheltering tree,
> In our bower we will bid thy blossoms unfold;
> So faithful and firm may our friendships be,
> So never may glowing hearts grow cold."— *Wild Garland.*

It is said that, even in the present day, the rustics in some parts of Germany and France, are wont to gather this plant under certain phases of the moon, accompanied by unintelligible cabalistic ejaculations, believing that the herb thus procured will operate as a charm against every calamity, natural and supernatural, and even possess the power

> "That hind'reth witches of their will."— *With. Bot. Arr.*

"Modern practice does not allow it to possess any medical efficacy, and its fanciful peculiarities are in no repute; yet it seems to hanker after its lost fame, and lingers around the dwellings of man, for though not solely found about our habitations, as Miller thought, yet generally, when perceived, it is near some inhabited or ruined residence, not as a stray from cultivation, but from preference."

Journal of a Naturalist, 3rd ed. p. 96.



PRENANTHES MURÁLIS *IVY LEAVED. WALL-LETTUCE.* 2/

PRENA'NTHES*.

Linnean Class & Order. SYNGENE'SIA †, POLYGA'MIA EQUA'LIS. *Natural Order.* COMPO'SITÆ, *Adanson.* Tribe, CICHORA'CEÆ, Lind. Syn. pp. 140 & 142; Introd. to Nat. Syst. pp. 197 & 201.—Loud. Hort. Brit. pp. 520 & 521.—CICHORA'CEÆ, Juss. Gen. Pl. p. 168.—Sm. Gram. of Bot. p. 120.—SYNANTHE'REÆ, Rich. by Macgilliv. p. 454.

GEN. CHAR. *Involucrum (common calyx)* (fig. 1.) cylindrical, smooth, double; the inner of as many strap-shaped, equal scales as there are florets; the outer of a few very short unequal ones at the base of the inner. *Corolla* compound, composed of a single row of perfect, equal, strap-shaped, abrupt, 4- or 5-toothed *florets (flosculi)* (fig. 2.) *Filaments* 5, hair-like. *Anthers* united into a slender cylindrical tube. *Germen* oblong. *Style* thread-shaped, longer than the stamens. *Stigmas* 2, revolute (rolled back). *Seed* (*akenium* of Richard) (fig. 3.) oblong, furrowed. *Seed-down (pappus)* hair-like, roughish, nearly or quite sessile. *Receptacle* naked, very narrow.

Distinguished from other genera of the same class and order, by the naked *receptacle;* nearly sessile, simple *down;* double *calyx;* and very few (from about 5 to 8) *florets.*

One species British.

PRENA'NTHES MURA'LIS. Ivy-leaved Wall-lettuce.

SPEC. CHAR. Florets five. Leaves runcinate.

Eng. Bot. t. 457.—Curt. Fl. Lond. t. 306.—Linn. Sp. Pl. p. 1121.—Huds. Fl. Angl. (2nd ed.) p. 338.—Sm. Fl. Brit. v. ii. p. 821. Engl. Fl. v. iii. p. 348.—With. (7th ed.) v. iii. p. 887.—Hook. Brit. Fl. p. 340.—Lightf Fl. Scot. v. i. p. 431.—Sibth. Fl. Oxon. p. 238.—Purt. Midl. Fl. v. ii. p. 376.—Relh. Fl. Cant. (3rd ed.) p. 319.—Hook. Fl. Scot. p. 277.—Curt. Brit. Entomol. t. 391.—Sm. Pl. of S. Kent, p. 46.—Walk. Fl. of Oxf. p. 223.—Perry's Pl. Varv. Selectæ, p. 65.—Mack. Catal. of Pl. of Irel. p. 69.—*Chondrilla muralis*, Gray's Nat. Arr. v. ii. p. 415.—Lindl. Syn. p. 157.—Bab. Fl. Bath. p. 28.—*Lactuca sylvestris murorum flore luteo*, Ray's Syn. p. 162.—*Sonchus lævis muralis*, Johnson's Gerarde, p. 293.

LOCALITIES.—On old walls, in woods, and on hedge-banks, especially on a chalky soil. Not common.—*Oxfordsh.* In Stokenchurch woods, and on the top of Stanton Harcourt kitchen: Dr. SIBTHORP. On the walls of Magdalen College, and on Long Wall: Rev. R. WALKER. On walls going from the Broad Walk into St. Aldate's; on the north side of the Church of St. Peter's in the East, Oxford. On a bridge between Lower Woolvercot and Godstow; and in woods on Henley Park Hill: W. B.—*Berks;* On old pollard willows in Bagley Wood: W. B.—*Bucks;* At Cleifden: Dr. MARTYN.—*Cambridgesh.* On the willows by the Old Sluice behind Grandchester Mill; Trumpington, in the lane leading from the bridge, towards the village; Chippenham, on the walls of the Park: Rev. R. RELHAN.—*Derbysh.* About Peek's Hole: Dr. MANTYN.—*Herts;* Near Welwyn: ibid.—*Kent;* Upon old walls at Hythe; in woody lanes; and upon banks of the chalk: Rev. G. E. SMITH.—*Leicestersh.* In Swithland Slate Pits, Charnwood Forest near Leicester: Rev. A. BLOXAM, in Loud. Mag. of Nat. Hist. v. iii. p. 167.—*Middlesex;* On Hampstead Heath and Hornsey: Dr. MANTYN, in Miller's Gard. Dict.—*Norfolk;* About Bishopgate-street, Norwich: ibid.—*Northamptonsh.* At Weekly: ibid.—*Notts;* About Basford: ibid.—*Shropsh.* On walls at Hord's Park: Mr. PURTON, in Mid. Fl.—*Surrey;* Near Croydon: Dr. MARTYN.—*Warwicksh.* In a wet shady lane

Fig. 1. Calyx.—Fig. 2. A separate Floret, magnified, showing the united anthers, the style terminated by the two revolute stigmas; and at the base of the floret the germen, crowned with the simple, hair-like pappus.—Fig. 3. Seed.—Fig. 4. Expanded Calyx, showing the small naked receptacle.

* From *prenes*, Gr. *drooping*, and *anthos*, Gr. *a flower;* the blossoms drooping, or hanging down. † See *Tussilago, Farfara*, folio 91, note †.

between Middle-town and Sambourne; and on the hedge-bank between Washford and the Boot, at Mapleborough Green: Mr. Purton.—On walls in Mellos' Lane, and Vineyard Lane, Warwick: Mr. W. G. Perry.— *Worcestersh.* Blackstone Rock, and Rock Wood, near Bewdley; in a wood by Picket Rock, and Summer Hill, near Kidderminster; and Rock Hill, a mile and a half from Broomsgrove, on the road to Alcester: Mr. W. G. Perry, in Loud. Mag. of Nat. Hist. v. iv. p. 451.—SCOTLAND. On shady rocks, and walls of old castles in the Lowlands: Rev. J. Lightfoot.—IRELAND. Abundant in woods at Collon: Dr. Wade, in Mackay's Catal.

Perennial.—Flowers from July to September.

Root somewhat woody, fibrous. Whole *plant* smooth, tender, and brittle, with a milky, bitter juice. *Stem* from 1 to 2 or 3 feet high, upright, slender, round, hollow, leafy, simple below, somewhat zigzag (flexuose) towards the top, glaucous and purplish. *Leaves* runcinate (cut into several transverse segments which point backwards), toothed, clasping the stem at the base; lower segments smallest, terminal one large, somewhat triangular, toothed, and very much resembling the leaves on the creeping stems of ivy; their under side is often more or less purple. *Root-leaves* stalked. *Panicle* very much branched, and singularly divaricated (spreading widely from each other) in all directions. *Floral-leaves (bracteas)* small, egg-shaped, pointed. *Flowers* upright, bright yellow. *Outer Calyx* of 3 egg-shaped, or spear-shaped scales; the *inner* of 5 strap-shaped, purplish leaflets, which are membranous at the edges. *Seeds* inversely egg-shaped, striated, black. *Seed-down* elevated on a short stalk or pedicle as the seed ripens.

The Order *Compositæ*, to which the present plant belongs, is one of the most extensive, most natural, and best defined in the vegetable kingdom. It is composed of *Herbaceous* plants and shrubs, with alternate (rarely opposite) leaves. Their *flowers* (called *florets*), which are generally small, are collected into dense heads, called *capitula*, or *calathidia*, which are hemispherical, globular, and more or less elongated. Each head, or *capitulum*, is composed of a common *receptacle;* an *involucrum* which surrounds the capitulum, and which is composed of scales, the form, number, and disposition of which vary in different genera; and small scales or hairs, which are frequently found on the receptacle at the base of each flower, and called *palæ of the receptacle.* The *flowers* which form the capitula, are of two kinds, either funnel-shaped, with 4 or 5 regular lobes, when they are called *florets (flosculi);* or strap-shaped, when they are called *semiflorets (semiflosculi);* sometimes the capitula are composed exclusively of florets *(flosculosæ)*, sometimes exclusively of semiflorets *(semiflosculosæ)*, and sometimes their *centre*, or *disk*, is occupied by *florets*, and their *circumference*, or *ray*, by *semiflorets (radiatæ).* Each flower presents the following organization. The *Calyx*, which is adherent to the *ovary*, and undistinguishable from it, has its *limb* entire, membranous, toothed, and formed of scales, hairs, or feathers, and called *pappus.* The *Corolla* of one petal, regular or irregular; five *Stamens*, with distinct filaments, and united *Anthers*, which form a tube, through which passes the simple *Style*, terminated by a bifid *Stigma.*

The *fruit* is a small, indehiscent, dry *pericarpium*, crowned with the limb of the calyx. *Seed* solitary, upright; *embryo* with a taper, inferior radicle; *albumen* none.—See *Richard's Elem. of Bot.* and *Lind. Syn. of the British Flora.*





J.F. del ARISTOLOCHIA CLEMATITIS *COMMON-BIRTHWORT* V C.M. Sc.

ARISTOLO'CHIA *.

Linnean Class and Order. GYNA'NDRIA †, HEXA'NDRIA.

Natural Order. ARISTOLO'CHIÆ, Juss. Gen. Pl. p. 72.—Sm. Gram. of Bot. p. 85.—Lindl. Syn. p. 224. Introd. to Nat. Syst. p. 72.—Rich. by Macgilliv. p. 418.—ASA'RINÆ, *Link.*—Loud. Hort. Brit. p. 533.

GEN. CHAR. *Calyx* (*Corolla* of Linn.) superior, of one leaf, tubular, coloured, tumid, and nearly globose at the base, the mouth dilated on one side, and lengthened out into a strap-shaped lobe. *Corolla* none. *Filaments* none. *Anthers* (fig. 1.) six, sessile, and inserted round the base of the style; vertical, each of two oblong, separated, parallel, bivalve cells. *Germen* (see fig. 1.) inferior, oblong, angular. *Style* scarcely any. *Stigma* nearly globular, with 6 deep lobes; the summit concave. *Capsule* (fig. 3.) large, egg-shaped, 6-angled, and 6-celled. *Seeds* (fig. 5.) many in each cell, flat, horizontal, lying over each other, triangular, with a dilated or thickened margin.—The only genus in *Gynandria Hexandria.*

One species British.

ARISTOLO'CHIA CLEMATI'TIS. Common Birthwort.

SPEC. CHAR. Stem upright. Leaves heart-shaped, flowers crowded, upright, mouth of the calyx dilated on one side.

Eng. Bot. t. 398.— Hook. Fl. Lond. t. 149.—Linn. Sp. Pl. p. 1364. —Huds. Fl. Angl. (2nd edit.) p. 394.—Sm. Fl. Brit. v. iii. p. 947. Eng. Fl. v. iv. p. 53.—Woodv. Med. Bot. t. 238.—With. (7th ed.) v. ii. p. 462.—Lind. Syn. p. 225.—Hook. Brit. Fl. p. 381.—Sibth. Fl. Oxon. p. 112.—Pult. Midl. Fl. v. ii. p. 430. and v. iii. p. 380.—Relh. Fl. Cant. (3rd edit.) p. 368.—Walk. Fl. Oxf. p. 260.—*Aristolochia infesta*, Gray's Nat. Arr. v. ii. p. 262.—*Aristolochia saracenica*, Johnson's Gerarde, p. 847.—*Aristolochia clematitis recta off.* Blacks. Sp. Bot. p. 5.

LOCALITIES.—In woods, thickets, pastures, &c. and especially among the ruins of nunneries. Very rare.—*Oxfordshire;* Near the walls of Godstow Nunnery: Dr. SIBTHORP, (1794). In the same place: (1833) W. B. Near Kencott: Rev. Dr. GOODENOUGH. In the same place: (1833) Mr. H. BARRETT. In the Garden Ground at Sir ALEXANDER CROKE's, Studley Priory: Rev. R. WALKER, in Fl. of Oxf.—*Berks;* Hedge near Windsor: Mr. GOTOBED.—*Cambridgeshire;* At Milton, and Whittlesford: Rev. R. RELHAN.—*Essex;* In a wood two miles from Thorndon: Mr. HILL, in Blacks. Sp. Bot.—*Kent;* Near Maidstone, and in other parts of the county: Mr. HUDSON.—*Norfolk;* Among the ruins of Carrow Abbey, Norwich: Rev. C. SUTTON, in Bot. Guide.—*Suffolk;* At Sturston near Diss: Mr. WOODWARD.

Perennial.—Flowers from June to September.

Root creeping, long, and slender, increasing very fast, and rendering the plant difficult of extirpation. *Stem* 2 or 3 feet high, upright, simple, round, striated, leafy, somewhat zigzag, especially in the upper part; not climbing. *Leaves* rather coriaceous (leathery), alternate, heart-shaped, with a wide space at the base, entire, blunt, shining above; pale green, smooth, and veiny beneath, with pedate

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Fig. 1. Germen, Stamens, and Stigma, magnified.—Fig. 2. The summit of the Stigma.—Fig. 3. Unripe Capsule, natural size.—Fig. 4. Transverse section of the same.—Fig. 5. A Seed.

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* From *Aristos*, Gr. *best*, and *lochereo*, Gr. *to bring forth;* in allusion to its supposed virtues.

† See *O'phrys Apifera*, folio 8, (2nd ed.) note †.

(bird-footed) ribs. *Stipulas* none. *Leaf-stalks* nearly as long as the leaves. *Flowers* several together, from the bosom of each leaf, on simple stalks, upright, or hanging down, pale yellow, or buff-coloured, scentless. *Capsule* large, pendulous, somewhat inversely egg-shaped, concave at the summit, with 6 blunt lobes, and as many cells; it very rarely comes to perfection.

Sir J. E. SMITH, in his Introduction to Botany, says, "A very curious observation is recorded by SCHREBER and WILLDENOW concerning this plant. The stamens and pistils of this flower are inclosed in its globular base, the anthers being under the stigma, and by no means commodiously situated for conveying their pollen to it. This, therefore, is accomplished by an insect, the *Tipula pennicornis*, which enters the flower by the tubular part; but that part being thickly lined with inflexed hairs, though the fly enters easily, its return is totally impeded, till the corolla fades, when the hairs lie flat against the sides, and allow the captive to escape. In the mean while the insect, continually struggling for liberty, and pacing his prison round and round, has brushed the pollen about the stigma. I do not doubt the accuracy of this account, though I have never caught the imprisoned *Tipula*. Indeed I have never seen any fruit formed by this plant."—*Introd. to Bot.* ed. 5, p. 273.

The first time I saw the *Aristolochia Clematitis*‡ was on the 12th of July, 1812, at Godstow. It was growing close to where part of the foundation of the Nunnery had then very recently been removed. On opening some of the flowers, for it was then in blossom, I found within the globular base of the tube several very minute winged insects, which proved, on examination, to be the *Tipula pennicornis* of LINNÆUS, which is said by SCHREBER and WILLDENOW to be an auxilliary to the fertilization of the flower of this species. I have observed them in abundance in the flowers of the same species of *Aristolochia*, every year, for these last 20 years, in the Oxford Botanic Garden, where the plant always forms fruit, but the fruit very rarely comes to perfection. There were three or four fine ones produced in the autumn of 1832, one of which is represented in the annexed plate, from a careful drawing by Mr. ISAAC RUSSELL, of Oxford. I do not know that it has ever before been represented in any work on British Botany. Sir J. E. SMITH informs us, that he had "never seen any fruit formed by this plant;" neither had he ever seen the *Tipula* till I sent him specimens of it from the Oxford Garden, in August, 1813.

This plant is by no means so plentiful at Godstow now, as it was 20 years ago; and the Botanist who wishes to find it there, must look for it in a hedge on the bank of a watery ditch close to that part of the ruins which is nearest to Wytham. *W. B. January* 23, 1833.

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‡ The root of *Aristolochia* is aromatic and bitter, but not ungrateful to the palate. It makes a considerable part of the Portland Powder, a medicine that has been in high repute as a cure for the gout, but a long continued use of such medicine is said to be extremely hurtful, and often to produce effects more formidable than the original disease. As a warm, stimulating medicine, it still retains a place in some Pharmacopœias. Great virtues were attributed to it by the ancients, as appears from the writings of DIOSCORIDES, GALEN, and PLINY. An opinion is said to prevail in France, that the produce of vineyards in which this plant abounds, becomes deteriorated in quality.—See WITH. Bot. Arr. and PUPT. Midl. Fl.



ANAGÁLLIS ARVÉNSIS. *SCARLET PIMPERNEL* ☉

ANAGA'LLIS*.

Linnean Class and Order. PENTA'NDRIA, MONOGY'NIA.

Natural Order. PRIMULA'CEÆ. *Vent.*—Lind. Syn. p. 182; Intro. to Nat. Syst. of Bot. p. 225; Rich. by Macgill. p. 431.—LYSIMA'CHIÆ. *Juss.*

GEN. CHAR. *Calyx* inferior, of one leaf, deeply divided into five pointed, spreading segments, permanent. *Corolla* of one petal, wheel-shaped, without a tube, limb nearly flat, in five roundish-egg-shaped segments. *Filaments* five, slender, upright, shorter than the corolla, clothed with prominent glandular hairs. *Anthers* heart-shaped. *Germen* globose. *Style* thread-shaped. *Stigma* knobbed. *Capsule* globose, of one cell, splitting horizontally into two hemispherical valves. *Seeds* numerous, angular. *Receptacle* large, globular, pitted, unconnected.—Distinguished by the hairy stamens, and the one-celled capsule bursting all round.

Three species British.

ANAGA'LLIS ARVE'NSIS†. Scarlet Pimpernel, or Poor Man's Weather-glass.

SPEC. CHAR. Leaves egg-shaped, sessile, dotted beneath. Stem trailing. Corolla minutely notched.

Eng. Bot. t. 529.—Curt. Fl. Lond. t. 12.—Sm. Fl. Brit. v. i. p. 230.—Engl. Fl. v. i. p. 280.—With. (7th ed.) v. ii. p. 296.—Lind. Syn. p. 185.—Hook. Br. Fl. p. 87.—Sib. Fl. Oxon. p. 74.—Abbot's Fl. Bedf. p. 46—Purt. Midl. Fl. v. i. p. 115.—Relh. Fl. Cantab. (3rd ed.) p. 87.—Hook. Fl. Scot. p. 72.—Grev. Fl. Edin. p. 49.—Professor HENSLOW, in Loud. Mag. of Nat. Hist. v. iii. p. 537. and v. iv. p. 466.—Walk. Fl. of Oxf. p. 54 —*Anagallis flore phœniceo*, Ray's Syn. 282.—*Anagallis mas*, Johnson's Gerarde. 617.

LOCALITIES.—In fields and gardens.—Common.

Annual.—Flowers all the Summer.

Root small, fibrous. *Stem* branched, from 3 to 6 inches or more long, square, frequently dotted with purple, more or less trailing (procumbent). *Leaves* sessile, opposite, egg-shaped, many-ribbed, dotted on the under side. *Flower-stalks* angular, longer than the leaves, twisted, and bending downwards after flowering. *Calyx* permanent, segments spear-shaped, pointed, keeled, and membranous at the edges. *Corolla* bright scarlet, purplish, or violet coloured at the bottom, its edges finely crenate, or minutely fringed with glands. *Stamens* purple, dilated and smooth at the base, hairy above, hairs jointed. *Anthers* yellow, heart-shaped. *Style* purple, permanent. *Stigma* capitate. *Capsule* round, smooth, shining, slightly transparent, opening all round; the valves marked with five coloured lines. *Seeds* numerous, brown, roughish, angular, each with a central dot.

Fig. 1. Calyx.—Fig. 2 and 3. Two varieties of the Corolla.—Fig. 4. The five Stamens magnified.—Fig. 5. Germen, Style, and Stigma, ditto.—Fig. 6. A Stamen, more highly magnified, to show the articulated hairs on the filament.—Fig. 7. Calyx and Capsule —Fig. 8. A Capsule, showing the transverse separation of the valves.—Fig. 9. One of the hairs of the filament highly magnified.

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* From *anagelao*, Gr. *to laugh*. PLINY says the *Anagallis* excites pleasure; and DIOSCORIDES, that it removes obstructions of the liver which create sadness. Dr. HOOKER, in Br. Fl.

† This species was formerly celebrated for its medical qualities, and given in maniacal cases, and even in the hydrophobia, but it is now fallen into disuse. Small birds are very fond of the seeds.

" Nature," observes Mr. Curtis, in his Flora Londinensis, " seems to have taken uncommon pains in the formation of this little plant; few possess more liveliness of colour or greater delicacy of structure ; this must be sufficiently obvious to every common observer, but when its minute parts come to be viewed by the microscope, we are charmed with beauties altogether novel and unexpected ; we then find that the edges of the flowers, which to the naked eye appear a little uneven or hairy, are furnished with a number of little glands placed on footstalks, and that the hairs of the filaments, which partly tend to distinguish this genus, are regularly jointed. The pistil, which generally arises upright betwixt the stamens, is here inclined to one side, so that the stigma is placed without the circle of the stamens. The care which Nature has taken likewise in the preservation of these delicate parts from the injury of the weather, is not less remarkable. Every morning, if the weather be fair and warm, the blossoms fully expand, but if rain falls, or there be much moisture in the air, the flowers quickly close themselves up to secure the inclosed antheræ and stigma from having their functions destroyed : from this property it has acquired the name of the *Shepherd's*, or *Poor Man's* Weather-glass,—they have remarked, that if the flowers be open in a morning it will prove a fine day, if shut, the contrary."—It is stated in Loudon's Encyclopædia of Plants, that the flowers open regularly about eight minutes past seven in the morning in our latitude, and close about three minutes past two in the afternoon. Hence it is distinguished by Linnæus as one of the *Floræ Horologiæ*, which is thus elegantly alluded to by Mrs. Hemans, in her Dial of Flowers—

" 'Twas a lovely thought to mark the hours,
As they floated in light away,
By the opening and the folding flowers,
That laugh to the summer's day.

Thus had each moment its own rich hue,
And its graceful cup or bell,
In whose coloured vase might sleep the dew,
Like a pearl in an ocean-shell.

To such sweet signs might the time have flow'd
In a golden current on,
Ere from the garden, man's first abode,
The glorious guests were gone.

Yet is not life, in its real flight,
Mark'd thus—even thus—on earth,
By the closing of one hope's delight,
And another's gentle birth ?

Oh! let us live, so that flower by flower,
Shutting in turn, may leave
A lingerer still for the sunset hour,
A charm for the shaded eve."

A variety of the *A. arvensis* with a white flower is mentioned by Ray, as having been found in Cowley field, near Oxford, by Mr. Bobart.—A variety with a white flower, with a purplish pink eye, has been found by Mr. John Dillwyn, at Penllegare, South Wales : and by the Rev. E. Wilson, in Yorkshire.—In September, 1813, I found a variety with a kind of liver-coloured corolla, (fig. 2.) in a brick-field between Kensington and Hammersmith, at the back of Seymore-place. All these varieties, as well as *A. cærulea* ‡, have come up spontaneously in the Oxford Garden every year for these eighteen years past.—A pale pink flowered variety was found by the Rev. Hugh Davies, in Anglesea ; and Professor Henslow, of Cambridge, met with the same variety at Higham, in Kent.—Mr. Wm. Pamplin, jun. of Lavender Hill Nursery, Wandsworth, informs me that a dull-red variety grows yearly in that nursey, spontaneously ; he thinks it may probably be Parkinson's sullen-red variety. Mr. Pamplin says they have also a light salmon coloured variety, and another nearly white, with a deep centre to the corolla, sent from near Taplow, Bucks, by Mr. Wm. Hurst.—A variety is sometimes met with that has four leaves growing together round the stem.

‡ Botanists are of different opinions respecting the Specific Identity of *Anagallis arvensis* and *cærulea ;* some consider them as mere varieties, differing only in the colour of the blossoms ; others have described them as distinct species. See Loud. Mag. of Nat. Hist. v iii. p. 537 ; v. iv. pp. 79, 277, 278, and 466. and the several works quoted in the foregoing page.


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(30.)

GERA'NIUM*.

Linnean Class and Order. MONADE'LPHIA, DECA'NDRIA.

Natural Order. GERANIA'CEÆ. *Juss.* — Lind. Syn. p. 56; Introd. to Nat. Syst. of Bot. p. 139.—GERANIA'CEÆ. *Tribe*, GERANIE'Æ. Loud. Hort. Brit. p. 56.

GEN. CHAR. *Calyx* inferior, of five egg-shaped, pointed, concave, permanent leaves (sepals). *Corolla* of five inversely-heart-shaped, spreading petals, all equal and regular, and much larger than the calyx. *Nectaries* five glands, which are alternate with the petals. *Filaments* ten, fertile, united at the base (monadelphous), spreading at the summit, five alternate ones longer than the rest, all of them shorter than the corolla. *Anthers* oblong, versatile (turning about like a vane). *Germen* superior, roundish, with five furrows. *Style* awl-shaped, upright, longer than the stamens, permanent. *Stigmas* five, oblong, reflexed. *Capsules* five, nearly globular, aggregate, membranous, separating at their inner margin, each tipped with a long strap-shaped, flat, upright, pointed, stiff *awn*, which is almost smooth and naked, not spiral, but finally recurved, or rolled back, and adhering by its point to the top of the style. *Seeds*, one in each capsule, roundish-kidney-shaped.—Distinguished from other genera of the same class by the ten fertile *stamens*, the beaked *fruit* of five aggregate *capsules*, and the recurved, *not* spiral, naked *awn*.

Herbaceous Plants with mostly opposite, stalked leaves, which are lobed in a palmate manner, and cut. *Stipulas* membranous; *Flowers*, one or two on a stalk, either axillary, or opposite to the upper alternate leaves.

Thirteen species British.

GERA'NIUM PRATE'NSE. Blue Meadow Crane's-bill.

SPEC. CHAR. Stalks 2-flowered. Leaves in 5 or 7 deep segments, sharply wing-cleft and serrated. Capsules hairy, not wrinkled. Stamens smooth, much dilated at the base.

Eng. Bot. t. 404.—Curt. Fl. Lond. t. 250.—Sm. Fl. Brit. v. ii. p. 732.—Eng. Fl. v. iii. p. 235.—With. (7th edit.) v. iii. p. 804.—Lind. Syn. p. 56.—Hook. Br. Fl. p. 312.—Sib. Fl. Oxon. p. 212.—Abbot's Fl. Bedf. p. 148.—Relh. Fl. Cant. p. 277.—Purt. Midl. Fl. v. i. p. 319.—Hook. Fl. Scot. p. 206.—Grev. Fl. Edin. p. 149.—Walk. Fl. of Oxf. p. 198.—*Geranium batrachoides*, Ray's Syn. p. 360.—Johnson's Gerarde, 942.

LOCALITIES.—In meadows, pastures, and thickets.—In many parts of England.—Southleigh, St. Clement's, and Marston, Oxford. Dr. SIBTHORP.—Meadow near Headington Hill. Rev. RD. WALKER, in Fl. of Oxf.—Near the path to South Hinksey, Berks.—Cumnor and Besselsleigh, Berks: Appleton, Berks, abundant, particularly in the church-yard, and in the meadows near the river Thames. Miss HOSKINS.—On the side of a ditch between the Diamond-House and the Woodstock Road, about a mile from Oxford.—Very abundant in meadows adjoining the Avon, and by road-sides near Rugby, Brownsover, and Newbold, in Warwickshire. July, 1831. W. B.—Common in Warwick-

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Fig. 1. Stamens, Styles, and Nectariferous Glands.—Fig. 2. Germen, Style, and Stigmas.—Fig. 3. Calyx; and ripe Capsules, separated from the base of the Style, and curled backwards.

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* From *geranos*, Gr. a *Crane*; the fruit resembling the beak of that bird.

shire. Mr. Purton, in Mid. Fl.—About Battersea, Surrey. Mr. Curtis, in Fl. Lond. and Mr. W. Pamplin, jun.—Chesterton, Ditton, Hinton, Histon, Girton, and Madingley, Cambridgeshire. Rev. R. Relhan, in Fl. Cantab.—Common in Bedfordshire. Rev. C. Abbot, in Fl. Bedf.—About Loughborough, Buddon Wood, the Stocking Wood, and the river-side, near Leicester.—Between Chertsey Bridge and Sheperton, Middlesex.—Between London and Dulwich.—Near the Thames, Buckinghamshire.—Reigate and elsewhere in Surrey.—About Plumpton, near Lewes, Sussex.—Reading and Windsor, near the Thames.—About Stockport, Cheshire.—Common in Cumberland.—Frequent in Derbyshire.—By the side of the Stour and the Frome, Dorsetshire.—Road-side near Walbottle Dean. Banks of the Wear, and of the Team, Durham.—Between Otley and Ingleton, and about Coxwold, Leeds, and Ripon, Yorkshire.—On the banks of the Pont below Pontland, Northumberland.—In Nottinghamshire.—Castle Fields, Shropshire.—Ilam, Staffordshire.—Darsham, Suffolk.—Ripton, Huntingdonshire. Botanist's Guide.—"On the fertile green sand of the Vale of Pewsey, in Wiltshire; on the sound calcareous loam over the great oolite, on the new red sandstone beds of Somersetshire; and on the rich alluvial beds that accompany the course of the Bristol Avon, through Wiltshire, Somerset, and Gloucester, and on the old red sandstone of Gloucestershire, this Geranium is both abundant and magnificent." Causidicus, in Loud. Mag. of Nat Hist. v. iv. p. 462.—On the bank at Clomendy, in Llanveras; and in the church-yard of Llanveras, Denbighshire.—Rhyd y Mwyn, in the parish of Mold, and in the field which is next above the bridge called Pont Llong, and between the rivers Alen and Terrig, in the township of Leeswood, Flintshire.—Frequent about Pont Nedd Vachn, and Aberpergam, Glamorganshire.—Plentiful about Istrad Vetid, Brecknockshire.—Near Beaumaris, in the Isle of Anglesea. Bot. Guide.—King's Park, Edinburgh. Dr. Greville, in Fl. Edin.—"Every stream in Ayrshire, and to the east of Glasgow, is rendered eminently beautiful by the rich azure of its transparent petals, and the singular verdure of its long peltate leaf. The Clyde, the Calder, the Tannock, and every streamlet near Bothwell, and Campsie Fells, possesses this flower. The bed of these rivers is basaltic." Mr. Thomson, in Loud. Mag. of Nat. Hist. v. iii. p. 416.

Perennial.—Flowers in June and July.

Root somewhat woody, fibrous, reddish brown. *Stem* from one to three feet high, upright, branched, swollen at the joints, roundish, downy, and tinged, more or less, with red. *Leaves* deeply divided into five or seven lobes, each of which is variously cleft, and every segment acute, hairy, with strong ribs underneath. Lower leaves on long footstalks, which are nearly central; upper almost sessile, divisions nearly strap-shaped. *Floral-leaves* four, spear-shaped, pointed. *Flowers* mostly two together, very large, blue; on short downy flower-stalks (*peduncles*). *Calyx-leaves* (*sepals*) egg-shaped, pointed, concave, bearded, clammy, ribbed, and membranous at the edges. *Petals* inversely-egg-shaped, nearly entire, with seven or nine whitish lines, and a little hairy at the base. *Filaments* ten, quite smooth, greatly dilated into a triangular figure at the base. *Anthers* purple. *Capsule* even, hairy all over. *Seeds* dotted.

A very handsome species, frequently cultivated in gardens, where it varies with striped, and sometimes with entirely white flowers. There is also a variety with double flowers cultivated in gardens, and which is said to have been found near Athol-house, Scotland, by the late Lady Charlotte Murray.—I observed the white flowered variety in a meadow just behind the water-mill near the turnpike road going from Rugby to Brownsover, June 28, 1831. W. B.



LÁMIUM ALBUM WHITE DEAD-NETTLE 2'

(31.)

LA'MIUM*.

Linnean Class and Order. DIDYNA'MIA†, GYMNOSPER'MIA‡.

Natural Order. LABIA'TÆ. *Juss.*—Lind. Syn. p. 196.—Introd. to Nat. Syst. of Bot. p. 239.—Rich. by Macgillv. p. 439.

GEN. CHAR. *Calyx* of one leaf, tubular, dilated towards the mouth, with five nearly equal, awned teeth, spreading at the point, permanent. *Corolla* ringent, longer than the calyx; tube cylindrical, short; limb open; throat inflated, compressed, bulging, bordered at each side with one or more little reflexed teeth; upper lip vaulted, roundish, blunt, undivided or cloven; lower shorter, inversely-heart-shaped, notched, more or less reflexed. *Filaments* four, awl-shaped, covered by the upper lip. *Anthers* incumbent, oblong, hairy, 2-valved. *Germen* superior, 4-cleft. *Style* thread-shaped, the length of the stamens. *Stigma* in two pointed spreading segments. *Seeds* four, level-topped, short, three-cornered, convex on one side, blunt at each end, in the bottom of the open-mouthed calyx.—The bristle-shaped tooth on each side the mouth of the corolla will distinguish this from other genera in the same class and order.

Perennial, or annual herbs, with opposite heart-shaped, mostly serrated, downy leaves, and numerous, large, whorled, scentless flowers, which are either red, purplish, or white; never yellow.

Five species British.

LA'MIUM A'LBUM. White Dead-nettle, or Archangel.

SPEC. CHAR. Leaves heart-shaped, pointed, strongly serrated, hairy. Flowers, about twenty in a whorl. Tube of the Calyx shorter than its teeth. Upper lip of the Corolla notched; lateral teeth solitary, spear-shaped.

Eng. Bot. t. 768.—Curt. Fl. Lond. t. 115.—Martyn's Flora Rustica, t. 26.—Sm. Fl. Br. v. ii. p. 626.—Eng. Fl. v. iii. p. 89.—With. (7th ed.) v. iii. p. 708.—Lind. Syn. p. 203.—Hook. Br. Fl. p. 276.—Sibth. Fl. Oxon. p. 183.—Abbot's Fl. Bedf. p. 128.—Relh. Fl. Cant. (3rd edit.) p. 238.—Purt. Midl. Fl. v. i. p. 269.—Hook. Fl. Scot. p. 181.—Grev. Fl. Edin. p. 130.—Walk. Fl. Oxf. p. 165.—Ray's Syn. p. 240.—Johnson's Gerarde, 702.

LOCALITIES.—Borders of fields, waste places, and road-sides. Common.

Fig. 1. Calyx.—Fig. 2. The same with the 4 Seeds.—Fig. 3. Corolla.—Fig. 4. The upper lip of the Corolla, and part of the Tube, showing the 4 Stamens.—Fig. 5. Germen, Style, and Stigma.—Fig. 6. Seeds.

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* From *laimos*, Gr. the *throat*, on account of the shape of the flower.

† From *dis*, Gr. *twice*, and *dunamis*, Gr. *power*. The 14th class in the Artificial System of LINNÆUS, comprehending those plants which have perfect flowers, with 4 Stamens in each, the two outer of which are longer than the two inner. These flowers have only one pistil, and the corolla is irregular, either gaping (ringent), that is, having the lips open; or masked (personate), having the lips closed by a palate. See *Linaria Cymbalaria*, t. 23. The class is divided into two orders, viz. *Gymnospermia*, in which the seeds are 4, naked, and situated within the base of the calyx; and *Angiospermia*, in which the seeds are numerous, and all inclosed in a superior, 2-celled capsule.

‡ From *gumnos*, Gr. *naked*, and *sperma*, Gr. a *seed*. The seeds in this order being (apparently) naked, and lodged in the bottom of the permanent calyx, which serves instead of a seed-vessel. It contains most of the *Labiatæ* (lipped plants) of JUSSIEU, and the *Verticillatæ* (plants that flower at the joints) of RAY and LINNÆUS.

Perennial.—Flowers from April to November.

Root white, jointed, creeping. *Stems* numerous, upright, unbranched, about a foot or eighteen inches high, slender at bottom, square, hollow, more or less hairy, frequently of a reddish purple colour; the young shoots weak and ascending. *Leaves* opposite, heart-shaped, pointed, strongly serrated, deep green, unspotted, stalked, veiny and hairy, those about the root frequently small, round and crenated. *Leaf-stalks* (*petioles*) broader at the base, longer on the leaves next the root. *Flowers* large, from 10 to 20 in a whorl, white, rarely tinged with red, hairy, lip cream coloured. *Calyx* sessile, slightly ten ribbed, hairy, with five bristly pointed teeth, marked on the lower side at bottom with dark purple spots, and supported by a short strap-shaped floral-leaf. *Corolla* twice as long as the calyx, upper lip arched, hairy, with a slight notch, mouth with a small spear-shaped tooth on each side; lower lip bifid, turned back, slightly notched, and spotted at bottom. *Anthers* black, hairy. *Pollen* yellow.

The whole plant, when handled, or bruised, has a disagreeable smell, and is scarcely ever eaten by cattle, but it is much resorted to by bees, for the sake of the honey, which it secretes in considerable quantity at the base of the tube of the corolla; on this account Dr. Withering recommends it to be encouraged in the precincts of the apiary.

It is not now used in medicine, though it was formerly considered useful in disorders of the lungs.—Boys make whistles of the stalks.

It increases very fast by its strong creeping roots, but as they run horizontally near the surface of the ground, the plant is easily extirpated.

The class and order *Didynámia Gymnospérmia* consists of plants which are all either *herbaceous* or *shrubby*, with square, branched, leafy *stems;* and opposite, simple, entire or serrated, sometimes divided, *leaves;* never with any *stipulas*. The *flowers* are either solitary, or in opposite, nearly sessile, axillary clusters, or dense tufts, resembling *whorls;* their colour reddish, purple, blue, white, or yellow. The qualities of these plants are aromatic or bitter; and their herbage, especially the *leaves* and *calyx*, is furnished with round pellucid dots or pores, which are the seat of an aromatic essential oil. The pubescence, in many species, exudes a similar, or more viscid, or a bitter secretion. Sometimes the growing parts are attacked by insects for the lodgement of their eggs, and then these secretions are changed to acid or astringent ones. The plants of this order (Gymnospérmia) are all harmless, not a single unwholesome, or even suspicious species having been found amongst them.



HEDERA HELIX. *COMMON IVY.* ħ

J. Russell. del. *C.M.Sc.*

HE'DERA*.

Linnean Class and Order. PENTA'NDRIA, MONOGY'NIA.

Natural Order. CAPRIFOLIA'CEÆ. *Juss.*—Lind. Syn. p. 131. CAPRIFOLIA'CEÆ, Sect. HEDERA'CEÆ, Lindl.—Introd. to the Nat. Syst. of Bot. p. 206.—Rich. by Macgillv. p. 460.

GEN. CHAR. *Calyx* very small, of five teeth, surrounding the germen. *Petals* five, oblong, spreading, broadest at the base, bent inwards at the points. *Filaments* five, awl-shaped, upright, as long as the petals. *Anthers* cloven at the base, fixed sideways (incumbent). *Germen* turban-shaped (turbinate), surrounded by the ring-like (annular) receptacle of the flower. *Style* very short, furrowed. *Stigma* simple. *Berry* globular, succulent, of five cells. *Seeds* from 3 to 5, large, oblong, gibbous on one side, angular on the other.—Distinguished by the superior corolla of 5 petals, which are broadest at the base. The calyx surrounding the germen, simple style; and succulent 5 celled, 3 to 5 seeded berry.

Climbing evergreen *shrubs*, with scattered, smooth, stalked, simple leaves; and terminal bracteated umbels, or heads, of pale or greenish flowers.

One species British.

HE'DERA HE'LIX. Common Ivy.

SPEC. CHAR. Leaves, some egg-shaped, some lobed.

Eng. Bot. t. 1267.—Curt. Fl. Lond. t. 16.—Sm. Fl. Brit. v. i. p. 267.—Eng. Fl. v. i. p. 334.—With. (7th ed.) v. ii. p. 337.—Lind. Syn. p. 133.—Hook. Br. Fl. p. 109.—Sibth. Fl. Oxon. p. 85.—Abbot's Fl Bedf. p. 53.—Relh. Fl. Cant. (3rd ed.) p. 101.—Purt. Mid. Fl. v. i. p. 132.—Hook. Fl. Scot. p. 82.—Grev. Fl. Edin. p. 56.—Walk. Fl. of Oxf. p. 67.—*Hedera communis major et minor*, Ray's Syn. p. 459.—*Hedera corymbosa* and *H. Helix*, Johnson's Gerarde, 858.

LOCALITIES.—Woods, hedges, trunks of trees, old buildings.

An evergreen Shrub.—Flowers from September to December.

Stem very long, branched, trailing on the ground, or climbing up walls, rocks, trees, &c. adhering to them by means of dense tufted fibres. As long as it trails upon the ground, or is fixed to any support, the stems are slender and flexible; but when it has reached to the top of its support, they shorten and become woody, forming themselves into large bushy heads, and in this state producing flowers and fruit. *Leaves* alternate, on long slender leaf-stalks, shining, dark green, smooth, often veined with whitish lines; those on the trailing or climbing branches 3 or 5 lobed; those on the flowering ones undivided, and egg-shaped, sometimes diamond-shaped (rhomboid). Every part of the plant, except the old stems, frequently furnished, more or less, with a starry (stellate) pubescence. *Flowers* yellowish, or greenish white, produced in close roundish umbels, at the extremity of the branches. *Calyx* teeth very small. *Petals*

Fig. 1. Corolla, Stamens, and Style.—Fig. 2. Germen and Style.—Fig. 3. A Berry.—Fig. 4. A Berry cut transversely, showing the five cells and five seeds.—Fig. 5. A Seed.

* Name, of uncertain origin.

reflexed. *Berry* smooth, and black, internally whitish and mealy, with from 3 to 5 *seeds*. The whole plant is somewhat aromatic, especially the young climbing branches; and a very fragrant resin exudes from the old stems when bruised.

There is a variety, called *Irish Ivy*, which has much larger leaves, and is of very rapid growth, and on that account is much cultivated for hiding unsightly walls, buildings, &c.

The *Ivy* begins to flower about September, and continues flowering, if the weather is open, till the middle or latter end of December, as was the case last year, 1832. In consequence of its flowering so late, it is much resorted to by bees and flies, when little other food is to be had. The berries increase during the winter, are fully formed in February, and ripen in April, furnishing food for wild Pigeons, Blackbirds, Thrushes, &c. in the spring. Sheep are said to be fond of *Ivy*, it is considered a warm and wholesome food for them, and in snowy weather shepherds cut down branches of it for their flocks to browse on.—CATO directs, that in a scarcity of hay, cattle should be foddered with it.—It was held in great esteem by the ancients, and with it they formed the Poetic Garland. Bacchus is represented crowned with *Ivy*, to prevent intoxication; and HOMER describes his heroes as drinking out of a cup made of the wood. The fruit bearing branches of it, are used, with *Holly*, to decorate churches and houses at Christmas. The leaves are said to ease painful corns if applied to them; and in the Highlands an ointment is made from them to cure burns. The branches, being very full of leaves, are sometimes made use of by gardeners to protect the blossoms of Apricot, Peach, and Nectarine trees, from the cold winds of February and March.

The roots are used by leather-cutters to wet their knives upon; and when large, boxes, and even tables, are made of them.

The *Ivy* is not, as some have supposed it to be, a parasitical plant, for it derives its nourishment from the soil in which it grows, by means of roots which it sends into the earth, and not by those fibres by which it fixes itself to other bodies for support; this may be proved by cutting the stem through, above the ground, when it will be found that the part above the separation will die. This method of destroying it is often practised by the woodman, from an idea that it is injurious to the trees on which it grows; but, according to the facts and observations of Mr. REPTON on the supposed Effects of *Ivy* upon Trees, published in the 11th volume of the Transactions of the Linnæan Society, it appears, that instead of its being injurious to the trees which support it, it is often beneficial to them, and that its growth deserves to be encouraged rather than checked. Mr. CURTIS observes, that few people are acquainted with the beauty of *Ivy*; when suffered to run up a stake, and at length to form itself into a standard, the singular complication of its branches, and the vivid hue of its leaves, give it one of the first places amongst evergreens in a shrubbery.

In the Language of Flowers, *Ivy* is an emblem of Fidelity in Friendship.

It is the badge of the Scottish Clan GORDON.

Sphaelaria punctiformis, Grev. Fl. Edin. p. 362, and *Hysterium foliicolum*, Var. *Helderæ*, Grev. Scot. Crypt. Flora. t. 129. f. 1, are parasitic on dead leaves of the Ivy. The first is very common; the latter rather rare, at least in the neighbourhood of Oxford.





GALÁNTHUS NIVÁLIS. SNOW-DROP. 4

J. Sowerby Del. Pub. by W. Baxter Botanic Garden Oxford 1833 C. Mathews

GALA'NTHUS*.

Linnean Class and Order. HEXA'NDRIA†, MONOGY'NIA.

Natural Order. AMARYLLI'DEÆ. *Dr. R. Brown.*—Lind. Syn. p. 264.; Introd. to Nat. Syst. of Bot. p. 259.—NARCISSEÆ, Rich. by Macgillv. p. 407.

GEN. CHAR. *Calyx* none. *Corolla* (*Perianthium* ‡ of Lind. and Hook.) superior, of six petals, deciduous; the three outer inversely-egg-shaped, concave, spreading, equal; the three inner (*nectaries* of Linn.) shorter, intermediate, upright, wedge-shaped, blunt, notched, internally furrowed. *Filaments*, from the summit of the germen, hair-like, very short, upright. *Anthers* terminal, much longer, upright, approaching, tapering, ending in a bristly point, and discharging their pollen by two terminal pores. *Germen* inferior, globose, abrupt. *Style* thread-shaped, longer than the stamens. *Stigma* simple, pointed. *Capsule* nearly globular, with three obtuse angles, of three cells, and three valves, each valve with a central partition. *Seeds* many, globose, attached to the partitions.—The three shorter, innermost petals, will distinguish this Genus from all other Genera in the same class and order.

One species British.

GALA'NTHUS NIVA'LIS. Common Snowdrop. Fair Maid of February.

SPEC. CHAR. Leaves not plaited. *Lindley.*

Engl. Bot. t. 19.—Hook. Fl. Lond. t. 14.—Sm. Fl. Brit. v. i. p. 352.—Engl. Fl. v. ii. p. 129.—With. (7th ed.) v. ii. p. 417.—Lindl. Syn. p. 265.—Hook. Br. Fl. p. 151.—Abbot's Fl. Bedf. p. 73.—Purt. Mid Fl. v. i. p. 170. v. iii. p. 350. —Hook. Fl. Scot. p. 109.—Grev. Fl. Edin. p. 75.—Walk. Fl. of Oxf. p. 90.—*Leucoium bulbosum præcox minus.* Johnson's Gerarde, 147.

LOCALITIES.—In meadows, orchards, woods, hedges, and on the banks of rivers.—In the chapel-yard at Rycot, near Thame, Oxfordshire, in abundance, but probably an escape from gardens. Mr. P. B. AYRES.—At the foot of the Malvern Hills, Worcestershire: on the right of the road running below the camp. Mr. BALLARD, in Bot. Guide.—Astley Wood, near Stourport, Worcestershire. HICKMAN, in Purt. Mid. Fl.—Packington, Warwickshire. COUNTESS of AYLESFORD, in Bot. Guide.—In Bedfordshire. Rev. C. ABBOT, in Fl. Bedf.—Near Cirencester, Gloucestershire. Mr. ARROWSMITH, in With. Bot. Arr.—On the banks of the Tees, about Blackwell and Conniscliffe, certainly wild. Mr. E. ROBSON, ibid.—Near St. John's Chapel, and at Broad-gate, Barnstable, Devon. Mr. POLWHELE, ibid.—Heaton Wood; and in the most sequestered situations of Scott's Wood Dean, Northumberland. Mr. WINCH, ibid.—Hedges at Laxfield, Suffolk, in great profusion. Mr. D. TURNER, ibid.—Pasture near Kirkstall Abbey, Yorkshire. Rev. W. WOOD, ibid.—Banks of the Skell, near

Fig. 1. One of the inner Petals.—Fig. 2. Germen, Style, and Stamens.—Fig. 3. Germen, Style, and Stigma; the stamens being removed.—Fig. 4. Capsule.—Fig. 5. The same burst open, showing the 3 valves, with the central partitions, and the Seeds.

* From *gala*, Gr. *milk*, and *anthos*, Gr. *a flower*, from the milky whiteness of the *Corolla*.

† The sixth class in the Artificial System of LINNÆUS, it comprehends all those plants which have perfect flowers, with six distinct, equal stamens.

‡ The word *Perianthium* is employed to designate a calyx and corolla, the limits of which are undefined, so that they cannot be satisfactorily distinguished from each other, as in most Monocotyledonous plants, of which the *Fritillary*, t. 1. the *Tulip*, t. 2. the *Bee Ophrys*, t. 8. and the *Snowdrop*, t. 33. are examples. See Lindl. Introd. to Bot. p. 113.

Ripton, and Mackershaw Woods, Yorkshire. Rev. J. Dalton, ibid.—On the banks of the brook near Chudleigh Rock; and in a field near Morcton, Devon. Rev. J. Pike Jones, ibid.—In a field near Wedgnock Park, towards Warwick. Mr. Perry, ibid.—In the Hop-grounds on both sides of the road between Sibble and Castle Hedingham, Essex. Mr. Graves, in Hook. Fl. Lond.—Not uncommon in Sussex, but scarcely indigenous. Mr. Borrer, in Bot. Guide.—About Enborne, Berks, plentiful, but probably an outcast, originally, from gardens. Mr. Bicheno, in Dr. Mavor's Survey of Berks, p. 257.—Appleton and Besselsleigh, Berks. Miss Hoskins.—In a field near Carshalton, Surrey, in great abundance. Mr. J. Birch.—Near Yeovil, Somersetshire. Mag. Nat. Hist. v. iii. p. 174.—Pentraeth, Anglesea, among brush-wood, S. E. of the church. Rev. H. Davies, in Welsh Bot.—Banks about Castlemilk, Glasgow, abundant. Mr. Hopkirk, in Hook. Fl. Scot.—Arniston Woods, Edinburgh, in the greatest abundance, covering whole acres of ground. Messrs. Maughan and Shuter, ibid.

Perennial.—Flowers in February and March.

Root, a tunicated, egg-shaped bulb, scarcely an inch long, acrid, white, with many simple fibres. *Leaves* radical, (growing immediately from the root,) in pairs, strap-shaped, keeled, entire, ending in a blunt, somewhat callous, point, and enclosed at the base in one common tubular, membranous sheath, or *stipula*. *Scape* (*stalk*) somewhat compressed, striated, from 4 to 8 inches high. *Flowers* nearly scentless, drooping, on a slender, terminal, partial stalk, which bursts from a membranous, 2-ribbed *bractea* or sheath (*spatha* of Linn.) *Petals* six, pure white; the three inner much shorter than the three outer, and marked on the outside, near the top, with a green blotch, and on the inside with about 7 yellowish green lines§.

The early appearance of the Snowdrop, with its pure white blossoms, "like pendent flakes of vegetating snow," render it a general favourite. It frequently begins flowering towards the end of January, is in full bloom during the following month, and hence called Fair Maid of February; during this period it is the pride and ornament of our gardens, but begins to decline early in March, and by the first of April is generally quite out of flower.

Although this plant is found abundantly in many parts of Britain, as appears from the localities given above, yet, in consequence of its having been so long and so generally cultivated in gardens, it is doubted whether it is truly indigenous, many being of opinion that it may probably have originally escaped from cultivation. Be this as it may, its title to a place in the British Flora seems well established, from the circumstance of its having become naturalized in so many places. Ray and Dillenius omitted the Snowdrop in their Catalogue of British Plants, but how far they were right in so doing, is not now easy to determine. The late Mr. E. Robson was of opinion that it was certainly wild: and the author of that pleasing and interesting work, "The Journal of a Naturalist," says, that it is undoubtedly a native of our island, and that he has seen it in situations where nature only could introduce it, where it was never planted by the hand of man, or strayed from any neighbouring cultivation; yet he allows, that in most places where we find this flower, it is of manifest or suspicious origin, and that with us it partakes of the latter character, though no remains of any ancient dwelling are observable near it. "The Damask Rose, the Daffodil, or the stock of an old Bullace Plum," says the same author, "will long remain, and point out where once a cottage existed; but all these, and most other tokens, in time waste away and decay, while the *Snowdrop* will remain, increase, and become the only memorial of man and his labours."

§ The Snowdrop retains the beautiful ovate form of its flower only in a low temperature; warmth expands its petals and destroys its character. It becomes double by cultivation, but never wanders into varieties, or changes its colour.—"It was dedicated by the Romish Church to the Purification of the Virgin Mary; and it has been deemed the emblem of Consolation, as by its early revival from the death-like repose of winter, it cheers mortal man with the assurance of reanimation." *Withering*.—"Some snowdrop-roots taken up in winter, and boiled, had the insipid mucilaginous taste of the Orchis, and if cured in the same manner, would probably make as good Salep." *Darwin*.



BUTOMUS UMBELLATUS FLOWERING PLANT 1

BU'TOMUS*.

Linnean Class and Order. ENNEA'NDRIA †, HEXAGY'NIA.

Natural Order. BUTO'MEÆ, *Richard.*—Lindl. Syn. p. 271.; Introd. to Nat. Syst. of Bot. p. 253.—ALISMA'CEÆ, Section BUTO'MEÆ. Rich. by Macgillv. pp. 399 & 400.

GEN. CHAR. *Calyx* none. *Corolla* (*Perianth* of Hook. see p. 33.) of six egg-shaped concave petals, the three outer of which are the smallest, and most pointed. *Filaments* nine, awl-shaped, shorter than the corolla, six in the outer row, three in the inner. *Anthers* oblong, of two cells, each opening lengthwise, by two valves, the whole subsequently contracted into a heart-shaped figure. *Germens* six, oblong, the point of each elongated into a vertical *style*, with an abrupt *stigma*. *Capsules* six, oblong, taper-pointed, upright, each of one cell, and one valve, bursting at the inner margin. *Seeds* numerous, oblong, cylindrical, obtuse at both ends.—Distinguished from all other *genera* by the nine stamens, and six, many-seeded, capsules.

One species British.

BU'TOMUS UMBELLA'TUS. Flowering Rush. Water Gladiole.

SPEC. CHAR. Leaves narrow, strap-shaped, pointed, three edged; Spatha (sheath) of three leaves.

Eng. Bot. t. 651.—Curt. Fl. Lond. t. 29.—Sm. Fl. Brit. v. i. p. 436.—Eng. Fl. v. ii. p. 245.—With. (7th ed.) v. ii. p. 515.—Lind. Syn. p. 272.—Hook. Br. Fl. p. 185.—Sibth. Fl. Oxon. p. 134.—Abb. Fl. Bedf. p. 91.—Purt. Midl. Fl. v. i. p. 204. v. iii. p 357.—Relh. Fl. Cantab. (3rd ed.) p. 168.—Lightfoot's Fl. Scot. v. i. p. 211.—Hook. Fl. Scot. p. 123.—Grev. Fl. Edin. p. 92.—Rev. G. E. Smith's Plants of S. Kent, p. 25.—Mackay's Catalogue of the Plants of Ireland, p. 38.—Walk. Fl. of Oxf. p. 117.—*Butomus*, Ray's Syn. p. 273.—*Gladiolus palustris cordi*, Johnson's Gerarde, p. 29.

LOCALITIES.—On the margins of rivers, and in ponds and ditches.—On the banks of the Isis, and the Cherwell, and in watery ditches in the neighbourhood of Oxford, plentiful.—Common about the Avon, and the Swifts, near Rugby, in Warwickshire, especially near the bridge and the new aqueducts going from thence to Newbold and Brownsover. 1831. W. B.—In the rivers Avon, Arrow, and Alne, in many places near Alcester, Warwickshire. Mr. PURTON, in Mid. Fl.—Priory Pools, and in the Avon, near Warwick. Mr. PERRY, in With. Bot. Arr.—River Blythe, near Coleshill; and about Stafford and Tamworth. Dr. WITHERING, ibid.—Skerne, near Darlington. Mr. ROBSON, ibid.—Side of the river Avon, at Evesham. Mr. BALLARD, ibid.—About Bungay. Mr. WOODWARD, ibid.—In ditches between Ince and the sea, north of Liverpool. Mr. SHEPHERD, ibid.—Mere, near Scarborough. Mr. TRAVIS, ibid.—About White Cliff, and Durmeston, near Blandford. Dr. PULTENEY, ibid.—Bushy Park, Middlesex. Mr. WINCH, ibid.—Paper-Mills, Chesterton. Granchester. Teversham Moor River Cam. Isle of Ely, &c. Rev. R. RELHAN, in Fl. Cantab.—

Fig. 1. The 9 Stamens and 6 Pistils.—Fig. 2. A single Stamen.—Fig. 3. A single Pistil.—Fig. 4. One of the three inner Petals.—Fig. 5. One of the three outer ditto. These three outer petals are described by some authors as a coloured calyx, and are called *sepals*.—Fig. 6. The 6 Capsules.

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* From *Bous*, Gr. an *Ox*, and *tomos*, Gr. *sharp*, because the sharp leaves injure the mouths of cattle that browze upon them.

† The ninth Class of the Artificial System of LINNÆUS, containing those plants which have 9 distinct stamens, of which *Butomus* is the only British example.

Between Stourport Bridge and the Lickhill, Worcestershire. Mrs. Gardner, in Purt. Mid. Fl.—In the Marshes near the banks of the Severn, about Framilode, Gloucestershire. G. W. Sandys, Esq. Pembroke College.—Near Deptford, and the Marshes by Blackwall, in great abundance, although very scarce in many other parts of Great Britain. Mr. Curtis, in Fl. Lond.—In wide ditches between Battersea Bridge and Vauxhall. Mr. W. Pamplin, jun.—Plastow Marshes, banks of the Thames. J. Bartleit, Esq.—Dykes near the Sea, south of Lydd. Near Sandwich, Kent. Rev. G. E. Smith.—In the Peat Pits, near Newbury, Berks. Dr. Noeheden, and Mr. Bicheno, in Dr. Mavor's Survey of Berkshire, p. 248.—In Buckinghamshire, on the banks of the Thames. Mr. P. B. Ayres.—About Bath. C. C. Babington, in Mag. of Nat. Hist. v. i. p. 392.—Grooby Pool, near Leicester. Rev. A. Bloxam, in Mag. Nat. Hist. v. iii. p. 167.—In the Chelmer, near Chelmsford, Essex. J. G. in Mag. Nat. Hist. v. iv. p. 447.—In Cors ddygai, Anglesea. Welsh Bot.—Duddingston Lock, Scotland. Mr. J. Mackay, in Hook. Fl. Scot.—Lock of Clunie. Rev. Mr. M'Ritchie, ibid.—Ditches near the Grand Canal, county of Kildare. Banks of the Shannon at Castle-Connel, near Limerick. Near D'Esterre's Bridge, and near Corrofin, in great abundance. Mr. J. T. Mackay, in Catal. of Plants of Ireland.

Perennial.—Flowers in June, July, and August.

Root white, tuberous, horizontal, and sending down a great number of long fibres from the underside. Whole *herb* smooth, and very cellular. *Leaves* all radical (growing immediately from the root), upright, narrow, quite entire, 3-sided, pointed, and more or less spirally twisted at the extremity, 2 or 3 feet high. *Stalk* solitary, taller than the leaves, round, very smooth, and terminating in a large *umbel* of beautiful rose-coloured *flowers*. *Flower-stalks* thread-shaped, unequal, about 4 inches long, with spear-shaped, brownish *bracteas* at their base, and a general three-leaved, membranous *spatha* or involucre beneath them.

This is a stately and beautiful aquatic, and the only plant of the class Ennea'ndria that grows wild in the British Isles. It is well adapted for ornamenting the margins of fish-ponds, and other pieces of water. "The Water-Gladiole, or Grassie Rush," says Gerarde, "is, of all others, the fairest and most pleasant to behold, and serveth very well for the decking and trimming up of houses, because of the beautie and braverie thereof."—The corolla varies in different shades of red, or purple mixed with white: and is sometimes entirely white. The stem at bottom, and the flower-stalks at top, are often tinged with red. The number 3 is evidently predominent in the fructification: the corolla being doubly tripetalous; the stamens thrice three; the pistils six; the capsules six, in a hexagon form; and the involucre three-leaved. *See Miller's Gard. Dict. by Martyn.*

The following Character of the *Natural Order* Buto'meæ to which our present plant belongs, is given by Professor Lindley, in his "Synopsis of the British Flora;" a work which no student of British Botany ought to be without.—"*Sepals* 3, herbaceous. *Petals* 3, coloured, petaloid. *Stamens* definite or indefinite, hypogynous (inserted beneath the Germen). *Ovaries (Germens)* superior, 3, 6, or more, either distinct or united into a single mass. *Stigmas*, the same number as the Ovaries, simple. *Follicles (Capsules)* many-seeded, either distinct and rostrate, or united in a single mass. *Seeds* minute, very numerous, attached to the whole of the inner surface of the fruit: *Albumen* none: *Embryo* with the same direction as the seed.—*Aquatic* plants. *Leaves* very vascular, often yielding a milky juice, with parallel veins. *Flowers* in umbels, conspicuous, purple, or yellow."—The only Genera in this order are, Butomus, Limnocharis, and Hydrocleys: the two last are not British.





CYANUS. *BLUE-BOTTLE.* 1/

CENTAURE'A *.

Linnean Class and Order. SYNGENE'SIA, POLYGA'MIA, FRUSTRA'NIA †.

Natural Order. COMPO'SITÆ. Tribe, CYNAROCE'PHALÆ. *Juss.* —Lind. Syn. pp. 140 & 152.; Introd. to Nat. Syst. of Bot. pp. 197 & 200.—SYNANTHE'REÆ. Tribe, CYNAROCE'PHALÆ.—Rich. by Macgillv. pp. 454 & 455.

GEN. CHAR. *Involucrum (common calyx)* roundish, imbricated (tiled), with closely converging scales (bracteæ), which are scarious (skinny), or spiny in various ways. *Corolla* compound: *Florets* all tubular, of two kinds; those of the disk perfect, regular, with five equal spreading segments, an oblong limb, and a slender tube; those of the ray fewer, with the rudiments of a pistil only, not perfecting seed, spreading, often wanting, funnel-shaped, with five or more unequal segments. *Filaments*, in the florets of the disk only, hair-like, very short. *Anthers* united into a cylindrical tube. *Germen* small, oblong. *Style* thread-shaped, about the length of the stamens. *Stigma* blunt, often cleft, prominent. The florets of the Ray have only the rudiments of a *germen*, with scarcely any *style* or *stigma*. *Seeds* in the disk only, various in shape. *Calyx (pappus*, or *seed-down)* generally short, bristly, or feathery, in some wanting. *Receptacle* bristly.—Distinguished by the bristly *receptacle*, the feathery or hair-like *seed-down*, and by the *florets* of the *ray* being funnel-shaped, dilated, irregular, and longer than those of the disk.

Seven species British.

CENTAURE'A CYA'NUS. Corn Blue-bottle. Corn-flower. Knapweed.

SPEC. CHAR. Scales of the Involucrum serrated. Leaves strap-spear-shaped, entire; the lower ones toothed towards the base.

Eng. Bot. t. 277.—Curt. Fl. Lond.—Martyn's Fl. Rust. t. 111.—Sm. Fl. Br. v. ii. p. 911.—Eng. Fl. v. iii. p. 466.—With. (7th ed.) v. iii. p. 958.—Lind. Syn. p. 155.—Hook. Br. Fl. p. 368.—Sibth. Fl. Oxon. p. 260.—Abbot's Fl. Bedf. p. 187.—Purt. Mid. Fl. v. ii. p. 413.—Relh. Fl. Cant. (3rd edit.) p. 353.—Hook. Fl. Scot. p. 249.—Grev. Fl. Edin. p. 183.—Walk. Fl. of Oxf. p. 249.—*Cya'nus*, Ray's Syn. p. 198.—*Cya'nus vulga'ris*, John. Gerarde, 732.

LOCALITIES.—In corn-fields.—Common in most parts of England. Frequent in Scotland. Dr. HOOKER.—In Ireland, but rather rare. Mr. MACKAY.

Fig. 1. Involucrum, or common Calyx.—Fig. 2. A Floret of the Disk.—Fig. 3. A Floret of the Ray.—Fig. 4. The Stamens and Pistil, showing the five separated filaments, the combined Anthers, and the prominent cloven Stigma.—Fig. 5. The Style and Stigma.—Fig. 6. The bristly Receptacle.—Fig. 7. A Seed.—Figs. 4 and 5 highly magnified.

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* From the CENTAUR, Chiron, who is said to have cured himself with this plant of a wound he received in the foot from Hercules.

† The third order of the class SYNGENE'SIA of the Linnean System. It contains all those compound flowers which have the florets of the disk perfect, that is, with both stamens and a pistil, and which produce seed; and the florets of the *ray* neuter, that is, having neither stamens nor pistil, or only the rudiments of a pistil, and producing no seed. Of this order, CENTAURE'A is the only British example.

Annual.—Flowers from June to August.

Root somewhat spindle-shaped, with many rigid fibres. *Stem* upright, 2 or 3 feet high, much branched, leafy, angular, and covered with a loose, cottony down. *Leaves* sessile, alternate, 3-ribbed, strap-spear-shaped, pointed, entire, whitish and cottony underneath, the lower ones broader, mostly toothed or pinnatifid, but the radical ones are entire. *Flowers* numerous, solitary, on naked stalks. *Involucrum* egg-shaped, its scales smooth, serrated, with sharp, white or brown teeth. *Florets of the Ray* large and spreading, generally with more than five segments, of a bright sky-blue; those of the *disk* purplish. *Filaments* surrounded, just below the anthers, with a fringe of silvery glandular hairs. *Anthers* almost black, horny at the top. *Stigma* cloven, and projecting a little above the anthers. *Seed* somewhat inversely-egg-shaped, rather compressed, a little downy, and crowned with the bristly *calyx* (*pappus* of Linn.)

The expressed juice of the florets is said to make a good blue ink; it also stains linen of a beautiful blue; but the colour is not permanent in the mode in which it has hitherto been applied. Sir James Edward Smith says, the wild flowers afford a blue for painting in water-colours, the expressed juice requiring only to be mixed with cold alum water. The same author informs us that the separate *floret* in *English Botany*, coloured with this, by way of experiment, has now stood well for 30 years.—White, dark purple, and other coloured varieties, are frequently cultivated amongst other hardy annuals in flower gardens.—G.W. Sandys, Esq. of Pembroke College, found several plants of the white flowered variety in cornfields near Stroud in Gloucestershire, in 1832.—The *Blue-bottle* is one of the most beautiful of our wild plants, but it is a pernicious weed to the Farmer, and requires his greatest care to eradicate; as it is not only very injurious to his corn, but blunts the sickles used in reaping it: from this circumstance it is, by some old authors, called *Hurt-sickle*. It is also called *Blue-ball*, *Blue-blow*, and *Corn-flower*. In Scotland it is called *Blue Bonnets*.

"There is a flower, a purple flower,
Sown by the wind, nursed by the shower,
O'er which Love has breathed a powerful spell,
The truth of whispering hope to tell;
And with scarlet poppies around like a bower,
Found the maiden her mystic flower.
Now, gentle flower, I pray thee tell,
If my lover loves me, and loves me well;
So may the fall of the morning dew,
Keep the sun from fading thy tender blue." L. E. L.



ACHILLEA PTARMICA SNEEZEWORT L

ACHILLE'A*.

Linnean Class and Order. SYNGENE'SIA, POLYGA'MIA SUPE'RFLUA†.

Natural Order. COMPO'SITÆ. Tribe, CORYMBI'FERÆ. *Juss.*—Lind. Syn. pp. 140 & 142; Introd. to Nat. Syst. of Bot. pp. 197 & 199.—SYNANTHE'REÆ. Tribe, CORYMBI'FERÆ.—Rich. by Macgillv. pp. 454 & 455.

GEN. CHAR. *Involucrum (common calyx)* egg-shaped, imbricated (tiled), with several egg-shaped, pointed, converging scales (bracteæ). *Corolla* compound, radiant; *florets* of the disk all perfect (with both stamens and a pistil), tubular, with 5 equal spreading segments; those of the ray from 5 to 10, strap-shaped, but peculiarly short and rounded, broader than long, inversely-heart-shaped, with a small intermediate lobe or tooth. *Filaments* five, in the tubular florets only, hair-like, very short. *Anthers* forming a cylindrical tube. *Germen (ovarium)* in all the florets small, inversely-egg-shaped. *Style* thread-shaped, as long as the stamens. *Stigmas* spreading, blunt. *Seed* in all the florets inversely-egg-shaped, blunt, without any border or crown. *Receptacle* narrow, slightly elevated, beset with spear-shaped, chaffy, pointed, deciduous scales, as tall as the florets of the disk.—Distinguished by the egg-shaped, imbricated *involucrum;* the nearly flat, chaffy *receptacle;* the few (from 5 to 10) roundish, inversely-heart-shaped *florets* of the ray; and the want of pappus to the *seeds.*

Four species British.

ACHILLE'A PTA'RMICA. Sneeze-wort. Goose-tongue.

SPEC. CHAR. Leaves strap-spear-shaped, pointed, equal, and sharply serrated, smooth.

Eng. Bot. t. 757.—Curt. Fl. Lond. t. 343.—Sm. Fl. Brit. v. ii. p. 908.—Eng. Fl. v. iii. p. 460.—With. (7th edit.) v. iii. p. 956.—Lind. Syn. p. 151.—Hook. Br. Fl. p. 367.—Sibth. Fl. Oxon. p. 260.—Abbot's Fl. Bedf. p. 187.—Relh, Fl. Cant. p. 351.—Purt. Midl. Fl. v. ii. p. 400.—Hook. Fl. Scot. p. 248.—Grev. Fl. Edin. p. 182.—Walk. Fl. of Oxf. p. 248.—*Ptarmica,* Ray's Syn. p. 183.—Johnson's Gerarde, 606.

LOCALITIES.—In wet hedges and thickets, moist meadows and pastures, and about the banks of rivers, and ditches.—Frequent.

Perennial.—Flowers in July, August, and September.

Root creeping, somewhat jointed, and sending out many long fibres. *Stem* upright, from one to three feet high, slightly angular, smooth, hollow, leafy, with small axillary rudiments of branches;

Fig. 1. Calyx.—Fig. 2. A tubular Floret of the Disk, highly magnified.—Fig. 3. Same, natural size.—Fig. 4. Stamens and Pistil, highly magnified.—Fig. 5. A strap-shaped Floret of the Ray, highly magnified.—Fig. 6. Same, natural size.—Fig. 7. The chaffy Receptacle.—Fig. 8. A Seed.

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* From ACHILLES, the famous Grecian hero, who is reported to have studied plants under Chiron, and to have extracted vulnerary virtues from this herb.

† The second order of the Linnean class SYNGENE'SIA, comprehending all those compound flowers in which the *florets of the disk* have, each of them, five stamens and a pistil, and the *florets of the ray* a pistil only, and all producing perfect seed.

corymbose at the top. *Leaves* alternate, sessile, undivided, strap-shaped, or slightly spear-shaped, pointed, two or three inches long, smooth on both sides, and somewhat shining, of a deep green colour, closely, very minutely and sharply serrated, with bristly teeth. *Flowers* white in the disk as well as in the ray, larger than in most of the genus, and with a greater number of ligulate (strap-shaped) florets. *Calyx* rather hemispherical. *Seeds* compressed, dilated at the edges (having a kind of wing on each side), but not crowned at the top.

The whole plant, and especially the root, has a pungent, biting taste, and when chewed in the mouth, like Pellitory of Spain, it promotes a flow of saliva, and is found serviceable in the cure of the tooth-ache. In the Spring, the young tender shoots are put into salads to correct the coldness of other herbs. The dried powder of the leaves snuffed up the nostrils excites sneezing, hence it has acquired the name of *Sneeze-wort*. Horses, cows, sheep, goats, and swine eat it. A variety with double flowers is not uncommon in gardens, where it is known by the name of *Double Ptarmica*, or *Batchelors' Buttons*. In this variety the leaves are truly spear-shaped, with deeper serratures; and all the florets, except a few in the very centre of the disk, are strap-shaped.—MERRETT, in his *Pinax*, published in 1666, mentions the double-flowered *Ptarmica* as having been found wild near *Chilmark*, in Wiltshire.—Mr. T. LAWSON observed it in one of the little Islands called *Small Holme*, in the great Lake of *Winander-mere*, previous to 1724: and it has been since found at *Ripton*, by Mr. J. WHITELOCKE, Nurseryman at Fulham.

The natural order COMPO'SITÆ (see *Prenanthes muralis*, p. 27) is divided into three principal tribes, CORYMBI'FERÆ, CYNAROCE'PHALÆ, and CICHORA'CEÆ. Our present plant belongs to the first of these, namely, *Corymbíferæ*. This tribe comprehends all those *Compósitæ* in which the florets of the disk are *floscular (tubular)*, and which have the stigma *not* articulated with the style. It contains the following British Genera.

1. EUPATO'RIUM
2. CHRYSO'COMA
3. CONY'ZY
4. I'NULA
5. LIMBA'RDA
6. PULICA'RIA
7. A'STER
8. ERI'GERON
9. SOLIDA'GO
10. ANTENNA'RIA
11. GNAPHA'LIUM
12. FILA'GO
13. SENE'CIO
14. DORO'NICUM
15. TUSSILA'GO
16. PETASI'TES
17. CINERA'RIA
18. BE'LLIS
19. CHRYSA'NTHEMUM
20. PY'RETHRUM, t. 20
21. MATRICA'RIA
22. ARTEMI'SIA
23. TANACE'TUM, t. 24
24. DIO'TIS
25. MARUTA
26. A'NTHEMIS
27. ACHILLE'A, t. 36
28. X 'NTHIUM
29. BI'DENS.





SAPONÁRIA OFFICINÁLIS. *COMMON SOAPWORT.* 2

Pub.d by W. Baxter Botanic Garden Oxford. 1833.

SAPONA'RIA*.

Linnean Class and Order. DECA'NDRIA†, DIGY'NIA.

Natural Order. CARYOPHY'LLEÆ, Juss. Gen. Pl. p. 299.—CARYOPHY'LLEÆ; Tribe, SILE'NEÆ.—Lindl. Syn. pp. 43 & 44; Introd. to Nat. Syst. of Bot. p. 156.—Loud. Hort. Brit. pp. 501 and 502.—CARYOPHY'LLEÆ; Tribe, DIA'NTHEÆ.—Rich. by Macgil. pp. 507 & 508.—DIANTHINÆ, Burnett's Outlines of Bot. p. 805.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal (monosepalous), tubular, 5-toothed, naked at the base, permanent. *Corolla* of 5 petals (see fig. 2.), with narrow angular claws the length of the calyx; limb flat, dilated towards the extremity, blunt. *Filaments* (fig. 3.) 10, awl-shaped, as long as the calyx, attached alternately to the claws of the petals; 5 of them later than the rest. *Anthers* oblong, blunt, incumbent. *Germen* (fig. 4.) somewhat stalked, nearly cylindrical. *Styles* (fig. 4.) 2, upright, parallel, as long as the stamens. *Stigmas* pointed, downy. *Capsule* (fig. 5.) oblong, concealed in the calyx, 1-celled, opening with 4 teeth. *Seeds* (fig. 6.) numerous, small, roundish-kidney-shaped, rather rough, attached horizontally to a central, unconnected, columnar receptacle.

This genus differs from that of *Diánthus*, in not having any scales or bracteæ at the base of the calyx; and it is distinguished from the other genera in the same class and order, by a corolla of 5 petals, a tubular, 1-leaved calyx, and an oblong, 1-celled, many-seeded capsule.

One species British.

SAPONA'RIA OFFICINA'LIS. Common Soapwort.

SPEC. CHAR. Leaves egg-spear-shaped. Calyx cylindrical, smooth.

Engl. Bot. t. 1060.—Curt. Fl. Lond.—Woodv. Med. Bot. t. 25.—Linn. Sp. Pl. p. 584.—Huds. Fl. Angl. (2nd ed.) p. 183.—Sm. Fl. Brit. v. ii. p. 459. Eng. Fl. v. ii. p. 284.—With. (7th ed.) v. ii. p. 537.—Gray's Nat. Arr. v. ii. p. 642.—Lindl. Syn. p. 45.—Hook. Brit. Fl. p. 199.—Sibth. Fl. Oxon. p. 138.—Abbot's Fl. Bedf. p. 94.—Purt. Midl. Fl. v. i. p. 208.—Relh. Fl. Cant. (3rd ed.) p. 173.—Hook. Fl. Scot. p. 134.—Grev. Fl. Edin. p. 95—Fl. Devon. pp. 72 & 182.—Sm. Pl. of S. Kent, p. 25.—Mack. Catal. p. 43.—Walk. Fl. of Oxf. p. 120.—Perry's Pl. Varvic. Selectæ, p. 39.—Bab. Fl. Bath. p. 7.—*Ly'chnis Saponária dicta*, Ray's Syn. p. 339.—*Saponária*, Johnson's Gerarde, 444.

LOCALITIES.—In meadows, by river sides, on hedge-banks, &c. Not common.—*Oxfordsh.* Stanton Harcourt: Dr. SIBTHORP.—Near Marston: Rev. R. WALKER.—*Berks;* Hedges near Old Windsor.—*Bedfordsh.* Bromham, and Sharbrook.—*Cambridgesh.* Barnwell; Paper-Mills; Granchester; Madingley; Shelford; Hinton; Comberton, near the Church; and Whittlesford.—*Cheshire;* On the banks of the Mersey, near Stockport, but rare.—*Cumberland;* Usemire, and Howtown, Ullswater; and Ake-beck-bridge, by Pooley. In a hedge in Aspatria Village, no garden near. *Derbysh.* Elmeton; Duffield.—*Devon;* Between Kingsteignton and Sandy Gate; near Bickington; Wilmington; and Shaldon, near the Sands: Fl. Devon. Road-side between Star-Cross and Exeter.—*Dorset;* Near Milbourne St. Andrews; and in other places in hedges of Orchards about villages.—*Durham;* Chester le Street new bridge:

Fig. 1. Calyx.—Fig. 2. A Petal.—Fig. 3. The 10 Stamens, and 2 Pistils.—Fig. 4. Germen, Styles, and Stigmas.—Fig. 5. A Capsule.—Fig. 6. A Seed.

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* From *sapo*, Lat. *soap;* the leaves being used as a substitute for that article in washing.

† The 10th class in the LINNEAN *Artificial System;* it comprehends all those plants which have perfect flowers with 10 distinct stamens in each.

Mr. Winch. Near Darlington.—*Essex;* Wood at Purfleet; and in a hedge at Laindon Hills. *Gloucestersh.* Somerton and Beverstone. Side of the Avon, by the passage at Conham near Bristol.—*Hampsh.* Odiham.—*Kent;* Near Linton; Blackheath; near Morden College. At Lyminge and Sibton: Rev. G. E. Smith's Pl. of S. Kent. Between the Half-way House and Gad's Hill, in the way to Rochester.—*Lancash.* Near Blackpool. Near Southport: Mr. G. Crosfield. On the brink of the river below Preston.—*Leicestersh.* Hedges about orchards, &c. but not common.—*Middlesex;* Near the churchyard at Iver.—*Norfolk;* Hedges by the Bungay road at Haddisco; and under a wall at the entrance to Lower Sheringham.—*Notts;* Near the Bath at Mansfield.—*Shropsh.* By the road-side between Llanamonerch and the new bridge. Nescliffe, on the road to Oswestry. Banks of the Severn above and below Bridgenorth.—*Somersetsh.* Road-side near Burnt-house Gate Turnpike, on the Wells road.—*Suffolk;* Westleton, Hackestow, &c. By the turnpike road at Marlesford. Near Bungay, by the road to Flixton. Hedge at Beccles by Rose Hall, and on the Halesworth road.—*Surrey;* Between London and Dulwich.—*Sussex;* Between Storrington and Washington Common; very plentiful at East Bourne, and on the wide beach towards Langley Fort.—*Warwickshire;* Hedge-bank at Dunnington, opposite Mr. Gould's. Naturalized in a hedge at the S. W. corner of a field that was formerly my father's garden, about a quarter of a mile from Rugby, on the road to Barby; July 10, 1831: W. B.—*Westmoreland;* Banks of the Lune at Kirby Lonsdale, abundantly.—*Worcestersh.* Near Hanley.—*Yorksh.* Near Shipton; Collingham Moor; Snaith; and on the banks of the Swale by Topcliffe.—WALES. *Anglesea;* Hedges at Llangadwalader, and other places.—*Brecknocksh.* At Llangattock, near Crickhowel.—*Denbighsh.* Denbigh Castle, between the church and the town; also on the left of the road as you enter the town of Ruthin from Denbigh.—*Flintsh.* Among the ruins and rubbish of Basingwerk Abbey.—*Glamorgansh.* Burrows about Marino; near Swansea; and between Cardiff and Llandaff.—*Montgomerysh.* Hedges of the lane that leads from Llan Rhaiadr to Pistill Rhaiadr: Bot. Guide.—SCOTLAND. Road-sides between Dean and Ravelston; near Rosslyn Chapel; banks of the Esk, above coalpits; and side of the Mill-Lead, opposite the old bridge at Musselburgh: Mr. Maughan. Cliesh Wood, Kinrossshire: Mr. Arnott.—Behind Burnt-Island: Mr. Neill.—IRELAND. Fields of Odin, above Rathfarnham: Mr. J. T. Mackay.

Perennial.—Flowers in July, August, and September.

Root somewhat fleshy, branching, and creeping. *Plant* nearly or quite smooth, a little succulent. *Stem* about 18 inches or 2 feet high, upright, round, leafy; panicled in the upper part. *Leaves* sessile, opposite, egg-spear-shaped, inclining to elliptic, pointed, 3-ribbed, entire, combined at the base. *Flowers* in a roundish terminal panicle, large, flesh-coloured, or pale pink, sometimes white; sweet scented, on short, opposite, downy stalks, which are accompanied by spear-shaped pointed *bracteas* *Calyx* somewhat downy, an inch long. *Petals* inversely heart-shaped, their claws with four angles, and crowned with a cloven scale. ‡

A variety with double flowers has been found wild at Haughmond Abbey, Shrewsbury, by Dr. Evans.—At Impington near Cambridge, by the Rev. Mr. Relhan.—At North Glemham, in the road to Swefling, by the Rev. G. Crabb.—Between Cheriton and Bramdean, Hampshire, by Dr. Pulteney.—In the road to Sittingbourne, Kent, and at Cornforth, Lancashire, by Dr. Martyn.—And on the banks of the Dodder, near Ball's Bridge and Donnybrook, in Ireland, by Mr. J. T. Mackay.—This variety is frequently cultivated in gardens.

A curious variety, with combined sheathing upper leaves, and a monopetalous corolla, was found in Northamptonshire by Gerarde; and recently near Liverpool, by Dr. Bostock.

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‡ Whole plant bitter. Bruised and agitated with water, it raises a lather like soap, which washes spots out of clothes, (whence called *Fuller's-herb*). A decoction of it, applied externally, cures the itch. The Germans use it instead of sarsaparilla in syphilitic complaints.—M. Andry, of Paris, cures violent gonorrhæas, by giving half an ounce of the inspissated juice daily: and with the extract, and a decoction of the leaves and roots, M. Jurine removes ulcers, pains, and emaciations, which have resisted the use of mercury. Withering.



DRÁBA VÉRNA. WHITLOW-GRASS. ☉

I. Russell, Del. Pub.d by W. Baxter Botanic Garden. Oxford. 1833. C. Mathews, Sc.

DRA'BA*.

Linnean Class and Order. TETRADYNA'MIA†, SILICULO'SA.

Natural Order. CRUCI'FERÆ, Juss. Gen. Pl. p. 237.—Sm. Gr. of Bot. p. 138.—Rich. by Macgilliv. p. 498.—CRUCI'FERÆ; Suborder, PLEURORHI'ZEÆ. Tribe, ALYSSI'NEÆ, or PLEURORHI'ZEÆ LATISE'PTÆ‡. Lind. Syn. pp. 20, 21, and 25.—Introd. to Nat. Syst. of Bot. pp. 14 to 18.—Loud. Hort. Brit. pp. 498 & 499; and Mag. of Nat. Hist. v. i. pp. 143 & 238.

GEN. CHAR. *Calyx* (fig. 1.) equal at the base, somewhat spreading, deciduous; *Sepals* 4, egg-shaped, concave. *Petals* (fig. 2.) 4, either cloven, notched, or entire, spreading, with short claws. *Filaments* (fig. 3.) 6, simple, awl-shaped. *Anthers* of 2 roundish lobes. *Germen* (fig. 3.) egg-shaped. *Style* very short. *Stigma* knobbed (capitate), flat. *Pouch (silicula)* (fig. 4.) oblong-oval, laterally compressed, entire, tipped with the style or stigma, 2-celled, valves nearly flat, separating from the bottom; Partition (fig. 5.) membranous, of the same shape and breadth. *Seeds* many in each cell, small, roundish, not bordered. *Cotyledons* accumbent (fig. 6).

The entire, oval, laterally compressed *pouch*, nearly flat *valves*, and numerous *seeds*, will distinguish this from other genera in the same class and order.

A numerous herbaceous genus; its pubescence forked or starry. *Leaves* undivided. *Flowers* white or yellow, without *bracteas*. SMITH.

Five species British.

DRA'BA VE'RNA. Common Whitlow-grass. Nailwort.

SPEC. CHAR. Stalks radical, naked. Petals deeply cloven. Leaves spear-shaped, somewhat toothed, hairy.

Engl. Bot. t. 586.—Curt. Fl. Lond. t. 49.—Linn. Sp. Pl. p. 896.—Huds. Fl. Angl. (2nd ed.) p. 278.—Sm. Fl. Br. v. ii. p. 677. Eng. Fl. v. iii. p. 158.—With. (7th ed.) v. iii. p. 755.—Hook. Br. Fl. p. 299.—Gray's Nat. Arr. v. ii. p. 697.—Lightf. Fl. Scot. v. i. p. 337.—Sibth. Fl. Oxon. p. 198.—Abbot's Fl. Bed. p. 141.—Purt. Midl. Fl. v. i. p. 300.—Relh. Fl. Cant. (3rd ed.) p. 260.—Hook. Fl. Scot. p. 196.—Grev. Fl. Edin. p. 141.—Fl. Devon. pp. 110 & 188.—Johnst. Fl. of Berw. v. i. p. 141.—Walk. Fl. of Oxf. p. 183.—*Erophila Vulgaris*, Lind. Syn. p. 26.—Bab. Fl. Bath. p. 5.—*Paronychia Vulgaris*, Ray's Syn. p. 292.—Johnson's Gerarde, 624.

LOCALITIES.—On walls, rocks, banks, and dry waste ground. Common.

Annual.—Flowers in February, March, and April.

Fig. 1. Calyx.—Fig. 2. A Petal.—Fig. 3. Stamens.—Fig. 4. A Pouch, with the 2 valves opening from the base, and showing the seeds and the partition.—Fig. 5. The 2 valves removed, showing the thin membranous partition or placenta, and the attachment of the seeds to its sides.—Fig. 6. A Seed, showing the 2 Cotyledons, with the radicle lying upon their edges, *(pleurorhizeæ)*.—All, except figs. 4 and 5, more or less magnified.

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* From *drabe*, Gr. *acrid*, as are the leaves of many of this tribe. HOOKER.

† From *tetra*, Gr. *four*, and *dunamis*, Gr. *power*. The 15th class of the LINNEAN *Artificial System*, comprehending all those perfect plants which have cruciform flowers with 4 long and 2 short stamens; the 2 shorter ones standing directly opposite to each other.—This class is a truly natural one, and corresponds entirely with the *cruciferæ* of JUSSIEU.—LINNÆUS divides it into 2 orders: 1st. SILICULO'SA, in which the fruit is a *silicula*, *pouch* or *roundish pod*, fig. 4. 2nd. SILIQUO'SA, in which the fruit is a *siliqua*, or *long pod*.

‡ From *latus*, *broad*, and *septum*, *a partition*. LOUDON.

Root fibrous. *Stem* none. *Leaves* several, arranged in a star-like form, close to the ground, oblong-spear-shaped, entire, or slightly toothed, hairy, hairs either simple or forked. *Flower-stalks* one or more, radical, from 2 to 6 inches high, round, wavy, leafless, hairy when young, smooth after flowering, terminating in a small corymbose head of minute, white, inodorous flowers, which elongates into a fruit-bearing raceme or cluster. *Petals* twice the length of the calyx, cloven half way down (bifid), fig. 2. *Siliculæ* (*pods*) rather distant, oval, compressed, smooth, crowned with the permanent sessile stigma.

This is one of our earliest flowering plants, enlivening the tops of walls, rocks, and barren uncultivated places, with its little white blossoms, at a time when there are very few other flowers to attract our attention; and though it is insignificant in itself, yet it excites in us the pleasing reflection that the season is approaching, when

> "All that is sweet to smell, all that can charm
> Or eye or ear, bursts forth on every side,
> And crowds upon the senses."

Linnæus, in his Tour in Lapland, informs us that the *Draba Verna* in Smoland, is called Rye Flower, because as soon as the husbandman sees it in bloom, he is accustomed to sow his Lent corn. He observes also, that the flowers hang down in the night, and in rainy weather. In some countries abundance of this little plant is supposed to prognosticate dearness of corn; which may have some foundation, as a wet season produces a great crop of this little weed.—It may be used as salad. Goats, sheep, and horses eat it; cows are not fond of it; swine refuse it.

The Order Cruciferæ, to which this plant belongs, is one of the largest and most natural families in the vegetable kingdom: in the plants composing it, the *Calyx* consists of 4 *Sepals* (fig. 1.), which are mostly deciduous, and often prominent at the base. The *Corolla* is composed of 4 *Petals* (fig. 2.), which are alternate with the sepals, and represent a cross. The *Stamens* are 6 in number (fig. 3.) of which 2 are shorter, opposite, and solitary, and sometimes furnished with a lateral tooth, or an interior scale; and 4 longer in opposite pairs, generally distinct, but sometimes connate, or furnished with a tooth on the inside. The *Nectaries* are various green glands, situated upon the receptacle between the petals and the stamens and the germen. The *Germen* or *Ovary* is superior: the *Style* short or wanting; and the *Stigma* is 2-lobed, and permanent. The *Fruit* is either a long, strap-shaped, often more or less quadrangular, or sometimes cylindrical *Pod*, containing many seeds, when it is termed a *Siliqua;* or it is a short roundish pod or pouch, containing one, or very few seeds, when it is called a *Silicula* (fig. 4.); it is of 2 valves, and mostly of 2 cells, with a parallel partition (placenta), which projects more or less at the summit. The valves separate at the base. In a few instances the fruit is of one valve, jointed, and not bursting. The *Seeds* are attached in a single row by a little stalk, called a funiculus, to each side of the *placentæ* (fig. 5.), and are generally pendulous, they have no *Albumen*. The *Cotyledons* and the *Radicle* are applied to each other in different ways, and afford characters on which M. Decandolle has founded his suborders of this very natural family—these will be explained hereafter.

Those who wish for particular information on the *Cruciferæ* will do well to peruse with attention a very masterly account of this order in Professor Lindley's *Introduction to the Natural System of Botany*, pp. 14 to 18.





ANDROSÆMUM OFFICINÁLE. *TUTSAN.* ♄

Pub.by W.Baxter. Botanic Garden. Oxford. 1833.

ANDROSÆ'MUM*.

Linnean Class and Order. POLYADE'LPHIA†, POLYA'NDRIA. *Natural Order.* HYPERICI'NEÆ, *Juss.*—Lindl. Syn. p. 41.; Introd. to Nat. Syst. of Bot. p. 47.—Rich. by Macgilliv. p. 486.—Loud. Hort. Brit. p. 504.—HYPE'RICA, Juss. Gen. Pl. p. 254.—Sm. Gram. of Bot. p. 143.—HYPERICA'CEÆ; Subtype, HYPERICIDÆ, Burnett's Outl. of Bot. pp. 796 & 797.

GEN. CHAR. *Calyx* (fig. 3.) inferior, of 1 sepal, deeply divided into 5 egg-shaped, concave, permanent segments. *Petals* 5, oblong, egg-shaped, spreading. *Filaments* (figs. 1 & 2.) numerous, hair-like, united at the base into 3 sets. *Anthers* small, roundish. *Germen* (see fig. 1.) superior, roundish. *Styles* (see fig. 3.) 3. *Stigma* simple. *Capsule* (see figs. 3 & 4.) berried, 1-celled.—Distinguished from *Hypéricum*, t. 80, by the 1-celled, berry-like capsule.

One species British.

ANDROSÆ'MUM OFFICINA'LE. Tutsan, or Park Leaves.

SPEC. CHAR. Stem shrubby, 2-edged. Leaves egg-shaped, sessile. Flowers terminal. Sepals unequal, roundish, egg-shaped, blunt.

Gray's Nat. Arr. v. ii. p. 632.—Lindl. Syn. p. 43.—*Hypéricum Androsæ-mum*, LINN.—Eng. Bot. t. 1225.—Curt. Fl. Lond. t. 265.—Linn. Sp. Pl. p. 1102.—Huds. Fl. Angl. (2nd ed.) p. 332.—Sm. Fl. Brit. v. ii. p. 800. Eng. Fl. v. iii. p. 323.—With. (7th ed.) v. iii. p. 869.—Hook. Br. Fl. p. 335.—Sibth. Fl. Oxon. p. 233.—Purt. Midl. Fl. v. i. p. 352. v. iii. p. 374.—Hook. Fl. Scot. p. 221.—Rev. G. E. Smith's Pl. of S. Kent, p. 45.—Fl. Devon. pp. 127 & 178.—Walk. Fl. of Oxf. p. 217.—Bab. Fl. Bath. p. 9.—Mack. Catal. of Pl. of Hel. p. 68.—*Hypéricum máximum Androsæmum vulgáre dictum*, Ray's Syn. p. 343.—*Clymenon Italorum*, Johnson's Gerarde, 543.

LOCALITIES.—In moist shady lanes, thickets, and woods.—Not common.—*Oxfordsh.* Shotover Plantations; Stokenchurch; Nettlebed Woods: Dr. SIBTHORP. On the North side of Shotover-Hill, and in a lane leading from the bottom of the hill to Horsepath; also in a ditch at the top of the hill, a little before you come to the gate leading to Mr. Schutz's; and by the side of a ditch near the old fish-ponds in the Plantations: Aug. 3, 1831, W. B.—*Berks;* About Cookham: Mr. BICHENO. Maidenhead Thicket, and Bisham Hill: Mr. W. A. DELAMOTTE.—*Cheshire;* In a wood near the Broken Brow; and woods near Scout Mill.—*Cornwall;* Abundant: EDW. DUKE, Esq. Exeter Coll.—Near Pengwarry; and in lanes near Saltash.—*Devon;* Near Brixton; stream-side below Ogwell Mill; near Newton; and in a lane leading from Bitton Mill, near Teignmouth, to Haldon. Near Chudleigh, Lympstone, Ilsington, and Tiverton. Near Clovelly: Miss ARMETRIDING.—*Dorsetsh.* Woods about Critchel-House; about Henbury; in a wood above Grange in Purbeck; and in Cranbourne Chase.—*Durham;* Near Darlington.—*Essex;* On Epping Forest; in a wood near Thorndon; near Woodford: in a lane on the left hand side of the road from Brentwood to Ongar, about half a mile from Ongar.—*Gloucestersh.* Woods at Wick Cliffs. St. Vincent's Rocks, Clifton: Miss ARMETRIDING.—*Hampsh.* Buriton Lane, New Forest; Bere Forest. Stony hollow lanes at Selborne. Steephill; and between Luccomb and Bonchurch, Isle of Wight.—*Herefordsh.* In the Northern parts of the county.—*Herts;* Duke of Bridge-

Fig. 1. Stamens, Germen, and Pistils.—Fig. 2. One of the three sets of Stamens.—Fig. 3. Calyx, and nearly ripe Berry.—Fig. 4. Transverse section of the Berry.—Fig. 5. A bit of the Stem, magnified.

* That is, *andros*, *aima*, Gr. *man's blood;* because, if the yellow flowering-tops are bruised between the fingers, they will immediately communicate a deep crimson stain. WITHERING.

† From *polus*, Gr. *many*, and *adelphos*, Gr. *a brother*, *several brotherhoods*. The 18th class in the Linnean Artificial System; it comprehends all those plants with perfect flowers in which the stamens are united by their filaments into more than two sets, fig. 1.

water's woods at Askeridge; and near Berkamstead.—*Kent;* In most of the woods about Dover, as in the wood on Lymne Hill, plentifully; between Chiselhurst and Bromley; in Eastwear Bay; and in the wood below Lymne Castle, &c.: Rev. G. E. Smith.—*Middlesex;* Bacher and Hampstead Heaths. In a thicket near Harefield Church; also between Highgate and Muswell Hill.—*Norfolk;* At Field Dalling. About Costesey. Lane at Mautby; and about North Walsham.—*Northamptonsh.* Woods about the mineral spring at King's Cliff.—*Shropsh.* Cross Hill near Shrewsbury. In a thicket at Hays. Between Bridgenorth and Faintree, on the side of the turnpike-road: Mr. Purton.—*Somersetsh.* Near Yeovil. Woods near Bath: Mr. Babington.—*Staffordsh.* Woods near Burslem.—*Surrey;* Wimbleton Woods. Bare-Hill Lane near Dorking: Mr. W. Pamplin, jun.—*Sussex;* About old Roar, and at the fish-ponds near Hastings. Woods about Penn's Rocks, Harrison's Rocks, and elsewhere near Tunbridge Wells. Not uncommon in the Weald.—*Warwicksh.* In woods at Meriden: Mr. Buck.—*Westmoreland;* In the Lady Holme in Winandermere. Rocky woods, frequent. Lane by Stockgill Force above Ambleside.—*Wilts;* Laverstock near Salisbury. Near Great Bedwyn: W. Bartlett, Esq.—*Worcestersh.* Lanes at the foot of Malvern Hill. Near Little Malvern Priory; in a wood by Picket Rock, near Kidderminster; and in a deep hollow way in a marly soil between Worcester and Tewkesbury.—*Yorksh.* Cook-wood near Sheffield. Near Halifax. Wood about Kirkstal Abbey; and Ruswarp Carrs near Whitby.—WALES. *Anglesea;* Old Park, and hedges near Beaumaris.—*Brecknocksh.* About Brecon.—*Carmarthensh.* In several places near Carmarthen.—*Carnarvonsh.* In a hedge near the Menai, between Carnarvon and Llanfair Iscaer; and in the woods at Glangconna, near Carnarvon. Side of the great road near Cwm Delhi, at the foot of Snowdon, leading from Capel Cerig to Beddgelert. *Denbighsh.* Merllyn Dingle near Garn, between the Wash-house and the Mill.—*Glamorgansh.* Frequent about Cardiff, Neath, Penrice, and throughout the county.—*Pembrokesh.* Common about Stackpole Court. See Turner and Dellwyn's *Botanist's Guide.*—SCOTLAND. In the woods at Inverary, and at Lock Ransa, in the Isle of Arran: Lightfoot.—Of common occurrence about Dunluce Castle, Antrim: Mag. of Nat. Hist. v. i. p. 438.—IRELAND. Under hedges and in woods in the county of Dublin, frequent: Mr. J. T. Mackay.

Perennial.—Flowers from July to September.

Root thick and woody, of a reddish colour, sending out long fibres. *Stems* somewhat shrubby, about 2 feet high, smooth, slightly winged on opposite sides (fig. 5.), branched towards the top. *Leaves* opposite, sessile, egg-shaped, or somewhat heart-shaped, widely spreading, glaucous on the under side, and reticulated with numerous veins, which become through age of a reddish or purple colour: the lower leaves are generally the least. *Panicle* terminal, upright, forked, many-flowered, with angular, or winged, smooth *Stalks.* *Flowers* of a yellowish colour, about an inch wide, with 3 sets of *Stamens* (fig. 1.), and as many *Styles.* The 3 outer segments of the calyx are the largest. *Berry* purplish-black when ripe; imperfectly 3-celled. The leaves and other parts of the plant have an aromatic scent when rubbed The French call this plant *Toute-seine, All-heal;* whence its English name *Tutsan.* The name of *Park Leaves* has been applied to it, from its being frequently found in Parks‡.

"It is often admitted into gardens; and was formerly esteemed for its medical qualities as a vulnerary, the leaves readily healing any fresh wounds. The leaves, given in substance, were supposed to destroy worms. By distillation they yield an essential oil. The dried plant boiled in water, with alum, dyes yarn of a yellow colour; and the Swedes give a fine purple tinge to their spirits with the flowers. Cows, goats, and sheep eat it; horses and swine refuse it." *With.*

‡ *Urédo Hypericórum,* DC. Fl. Fr. is parasitic on the under surface of the leaves of this species about Oxford. It is new to the British Flora.—See Baxter's *Stirpes Cryptogamæ Oxonienses,* N. 42. (1825.)





VÍSCUM ÁLBUM. *MISSELTOE.* ♄

J. Sowerby Del. Pub. by W. Baxter, Botanic Garden, Oxford, 1833. C. Mathews Sc.

VI'SCUM*.

Linnean Class and Order. DIŒ'CIA, TETRA'NDRIA.

Natural Order. LORA'NTHEÆ, *Rich.* and *Juss.*—Lindl. Syn. p. 133; Introd. to Nat. Syst. p. 208.—Rich. by Macgilliv. p. 461.—Loud. Hort. Brit. p. 519.—LORA'NTHINÆ, sect. LORANTHA'CEÆ, Burnett's Outlines of Bot. pp. 763 & 764.—CAPRIFOLIA, Juss. Gen. Pl. p. 210.

GEN. CHAR. *Barren Flowers* (fig. 1.); *Calyx* obsolete. *Corolla* of 1 petal, in 4 deep, egg-shaped, pointed, equal segments. *Filaments* none. *Anthers* 4, egg-shaped, compressed, sessile on the base of each segment of the corolla, all over pitted, or cellular. *Fertile Flowers* (fig. 2.); *Calyx* a slight border. *Corolla* of 4, egg-shaped, equal, deciduous petals. *Germen* inferior, egg-shaped, crowned with the calyx. *Style* none. *Stigma* blunt. *Berry* globular, smooth, juicy, viscid, of 1 cell. *Seed* 1, heart-shaped, compressed. *Embryos* 1 or 2, sometimes 3, (fig. 4.)

One species British.

VI'SCUM A'LBUM. White, or Common Misseltoe. Missel.

SPEC. CHAR. Leaves inversely egg-spear-shaped, blunt. Stem forked, with sessile, intermediate heads, of about 5 flowers.

Eng. Bot. t. 1470.—Woodv. Med. Bot. Suppl. t. 270.—Linn. Sp. Pl. p. 1451.—Huds. Fl. Angl. (2nd ed.) p. 431.—Sm. Fl. Brit. v. iii. p. 1074 Eng. Fl. v. iv. p. 236.—With. (7th ed.) v. ii. p 240.—Gray's Nat. Arr. v. ii. p. 492.—Lindl. Syn. p. 133.—Hook. Br. Fl. p. 434.—Sibth. Fl. Oxon. p. 63.—Abbot's Fl. Bedf. p. 214.—Purt. Mid. Fl. v. ii. p. 474.—Relh. Fl. Cant. (3rd ed.) p. 406.—Hook. Fl. Scot. p. 288.—Fl. Devon. pp. 159 & 164.—Walk. Fl. of Oxf. p. 295.—Bab. Fl. Bath. p. 22.—*Viscum*, Ray's Syn. p. 464.—Johnson's Gerarde, 1350.

LOCALITIES.—Parasitical on trees, especially on the Apple-tree (*Pyrus malus*); the White-thorn (*Cratægus oxyacantha*); the Lime (*Tilia europæa*); the Maple (*Acer campestre*, t. 98.); the Ash (*Fraxinus excelsior*); the Poplar; and the Willow; very rarely on the oak.—*Oxfordsh.* Near Bland's Court: Dr. SIBTHORP. On old apple-trees at Ibstou, near Stokenchurch: 1824, W. B.—*Berks;* About Appleton, on willows: Miss HOSKINS. East Hamstead Park, on the white-thorn. On oaks at Sand-pit Gate, Windsor Forest; and on Crispin oak, Winkfield Plain: Mr. W. A. DELAMOTTE.—*Bedfordsh.* On trees, common: Rev. C. ABBOT.—*Bucks;* On the left hand side of the road going from High Wycombe to West Wycombe, on the White-thorn (*Cratægus oxyacantha*); the Black-thorn (*Prunus spinosa*); and the Crab-tree (*Pyrus malus*); and on Apple-trees at Long Wick: Mr. P. B. AYRES, April, 1833.—*Cambridgesh.* On various trees: Rev. R. RELHAN.—*Denbighsh.* Brynkinalt Park, on oaks: Mr. BARRETT.—*Devon;* In an orchard at Holcombe Rogers, (Regis?) on the borders of Somersetshire: Rev. R. NECK, in Fl. Devon.—*Gloucestersh.* Common in this county. In Babminton Park, on the Hawthorn, the Crab, and the Maple, in great abundance: Mr. J. ROBINSON, Gardener, Wadham College. On a Beech-tree, 1832: G. W. SANDYS, Esq. Pembroke College.—*Hampsh.* Observed in this county by Mr. W. PAMPLIN, jun.—*Herefordsh.* Common in this county, both on orchard and hedge-row fruit-trees: Dr. WITHERING.—*Kent;* On trees in this county: ibid.—*Northumberland;* On trees near Bedlington, the only station in the district: Mr. WINCH.—*Somersetsh.* Not uncommon on Apple-trees; in an orchard a little beyond the bridge on the road to Box, in great plenty: Rev. C. C. BABINGTON.—*Warwicksh.* Norbrooke: Mr. W. G. PERRY.—*Worcestersh.* Common in this county: Dr. WITHERING.

A. A branch of a barren plant.—B. Ditto of a fertile one.—Fig. 1. A stamen-bearing Corolla.—Fig. 2. A pistil-bearing ditto.—Fig. 3. A Berry cut through transversely.—Fig. 4. A Seed divided vertically, showing the double embryo.—Fig. 5. An embryo, magnified.—Fig. 6. A Seed after it has germinated, showing the manner in which it produces the radicles, and attaches them to the bark.

* From the Æolic *Biskos, tenacious;* from the adhesive property of the berries, or plant. WITHERING.

Shrub.—Flowers in April and May.

Root woody, thick, incorporated deeply with the wood of the *tree* on which it grows. *Stem* bushy, about a foot or 18 inches high, very much branched, repeatedly forked (dichotomous), jointed, round, smooth, and even, of a pale yellowish-green colour. *Leaves* nearly the same colour as the stem, opposite, tongue-shaped, from an inch and a half to 2¼ inches long, very entire, with parallel ribs, smooth, rigid, almost woody, evergreen. *Flowers* yellowish-green, in small, axillary heads, about 3 or 5 in each head. *Berries* globular, the size of a currant, white, pellucid, sweet, very glutinous internally. *Seed* with from 1 to 3 *Embryos*†.

Some curious experiments are recorded by M. Richard, in his *Elements of Botany*, as having been made on the germination of the seed of the Misseltoe. I am indebted to M. Parigot, B. A. of the University of Ghent, for the following observations, which are extracted chiefly from the above-named work. "In opposition to the law of the tendency of roots towards the earth's centre, the Misseltoe, in common with some other parasitic plants, shoots out its radicle in whatever position chance places it. Thus, when the seed, which is enveloped with a thick and clammy gluten, happens to fix itself (or, as is often the case, is placed by the Missel Thrush, *Turdus viscivorus* of Linn., in the act of cleaning its bill from the glutinous seed) on the under part of a branch, the radicle, which is a kind of tubercle hollowed out like a French-horn, directs itself upwards. In short, in whatever position the seed may be fixed to the branch, the radicle always directs itself perpendicularly to the axis of the branch. The radicle presents also another unvarying tendency, which is, that of avoiding the light. Experiments have been made by M. Dutrochet, in which this seed, which finds its first nutriment in the gluten that envelopes it, was made to germinate on the two sides of the panes of a window, in both cases the radicles directed themselves towards the interior of the room, as if in quest of darkness‡." No art has yet made this plant take root in the earth; but if the berries, when fully ripe, are rubbed on the smooth bark of almost any tree, but especially the Apple or the Crab, they will adhere closely, and produce plants the following Winter. Several plants, in different stages of growth, all of which have been produced by this method, are now growing on Apple trees in the Oxford Botanic Garden.

The berries, when boiled with a small portion of vegetable oil, serve to make the best birdlime. It was formerly in great repute as a remedy for epileptic and other complaints, but it is now disregarded. It was one of those plants which was held sacred by the Druids, who ordained that it should be cut with a golden knife, and only by the Priest, who was to be clothed in white, and the plant received on a white napkin, when the moon was six days old. This ceremony was accompanied by the sacrifice of two white bulls. Thus consecrated, Misseltoe was considered an antidote to poisons, and a preventative of all the various ills of Pandora's box.—In the Christmas ceremony of the bush may be yet recognized a slight vestige of the importance once attached to this peculiar shrub.

The Lora'nthea are dicotyledonous, *parasitical* herbaceous plants, with opposite, veinless, fleshy *Leaves* without stipulæ. The *Flowers* are often monœcious, (sometimes diœcious,) axillary or terminal, solitary, corymbose, or spiked. The *Calyx* is superior, with 2 bracteæ at the base. The *Corolla* is composed of from 4 to 8 *Petals*, which are more or less united at the base. The *Stamens* are of the same number as the petals, and opposite to them. The *Ovary* is 1-celled; the *Ovule* pendulous; the *Style* 1, or none; the *Stigma* simple. The *Fruit* is succulent, and 1-celled; the *Seed* is solitary and pendulous; the *Testa* membranous; the *Embryo* cylindrical, longer than the fleshy *Albumen;* and the *Radicle* is naked, club shaped, and superior.—Lindley and Richard.

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† Out of nine seeds which I rubbed on the smooth bark of an Apple-tree in the Botanic Garden, this Spring (1833), and left there to germinate; two produced only one radicle each; six produced two radicles each; and one produced three. It appears, from this experiment, that two is the most common number of radicles produced by each seed of this curious plant.—See figs. 4 & 6.

‡ This experiment was verified last year (1833) in several seeds which were let to vegetate on the panes of my window in the Botanic Garden. W. B. 1834.



GÁGEA LÚTEA. *YELLOW GAGEA.* 4

J. Russell Del. Pub.d by W. Baxter Botanic Garden Oxford 1833 Mathews Sc.

GA'GEA*.

Linnean Class and Order. HEXA'NDRIA, MONOGY'NIA.

Natural Order. ASPHODE'LEÆ, *Dr. R. Brown.*—Lind. Syn. p. 266; Introd. to Nat. Syst. p. 273.—Loud. Hort. Brit. p. 539.—ASPHODELI, Juss. Gen. Pl. p. 51.—Sm. Gram. of Bot. p. 74.—LILIA'CEÆ, Rich. by Macgilliv. p. 403.—LILIACINÆ; type, ASPHODELACEÆ; subtype, SCILLIDÆ, Burnett's Outl. of Bot. pp. 425, 427, & 428.

GEN. CHAR. *Calyx* none. *Corolla (Perianthium*, see p. 33*)* (fig. 1.) inferior, of 6, somewhat herbaceous, permanent petals, approaching below, spreading above. *Filaments* 6, not dilated at the base, inserted at the bottom of the petals. *Germen* (fig. 2.) superior, egg-shaped, 3-sided. *Style* (fig. 2.) upright, permanent. *Stigma* gaping. *Capsule* (fig. 3.) 3-sided (triangular), of 3 cells, and 3 valves. *Seeds* many, small, and roundish.—Flowers *yellow*, *umbellate* or *corymbose*, *with leafy* bracteas.

Distinguished from *Ornithógalum* by the stamens being *not* dilated at the base, and by the stigma being bifid or gaping.—Mr. SALISBURY says, "the character of the inflorescence, if there was no other, distinguishes it from all the neighbouring genera with an hypogynous (inferior) corolla."

One speeies British.

GA'GEA LU'TEA, *Ker.* Yellow Gagea. Yellow Star of Bethlehem.

SPEC. CHAR. Root-leaves 1 or 2, strap-spear-shaped, longer than the angular scape. Umbel simple. Bracteas strap-spear-shaped, longer than the umbel. Petals spear-shaped, blunt.

Gágea lútea, KER, in Botanical Magazine, t. 1200.—Lindl. Syn. p. 268.—Hook. Brit. Fl. p. 155.—*Gágea fasciculáris*, Mr. R. A. Salisbury, in Annals of Botany, v. ii. p. 555.—Gray's Nat. Arr. v. ii. p. 180.—*Ornithógalum lúteum*, Engl. Bot. t. 21.—Hook. Fl. Lond. t. 121.—Redouté Liliacées, t. 302. fig. 1. Ray's Syn. p. 372.—Linn. Sp. Pl. p. 439.—Huds. Fl. Angl. (2nd ed.) p. 143.—Sm. Fl. Brit. v. i. p. 362. Eng. Fl. v. ii. p. 142.—With. (7th ed.) v. ii. p. 426.—Lightf. Fl. Scot. v. i. p. 180.—Sibth. Fl. Oxon. p. 111.—Hook. Fl. Scot. p. 102.—Grev. Fl. Edin. p. 76.—Walk. Fl. of Oxf. p. 93.—*Ornithógalum lúteum, sive cepa agraria*, Johnson's Gerarde, 165.

LOCALITIES.—In woods and pastures.—Rare.—*Oxfordsh.* Woods near Ashford Mills; Fauler: Dr. SIBTHORP. Blenheim Park, near new bridge; and outside of Cornbury Park Wall: J. COLES, Esq. F. L. S.—In *Berksh.*: J. E. BICHENO, Esq.—*Cheshire;* In a close near Willow-Moor at Bellow-Hill: Mr. VENNON, in Blacks. Sp. Bot.—*Cumberland;* Near Keswick. Mr. HUTTON.—*Derbysh.* Park-Hall Woods: Rev. Mr. PASHLEY. In a meadow adjoining the Copper Mills, Derby: Mr. WHATELY.—*Durham;* Near Pierce Bridge; Barnard Castle; and Whorlton; and shores of the Tees near Egleston; and Bishop Auckland: Rev. J. HARRIMAN.—*Somersetsh.* In a cornfield at Winstaunton: MERRETT.—*Suffolk;* Found some years since by Mr. ASHBY, in a hedge at Shipmeadow, between Beccles and Bungay; there were but few plants, and he has never been able to see it since: D. TURNER, Esq.—*Surrey;* Meadow near Godalmin: Mr. HILL, in Blackst. Sp. Bot.—*Westmoreland;* Near Kendal: Dr. WITHERING.—*Yorksh.* Near Greta Bridge, and Bignal: RAY. Welburn

Fig. 1. Perianthium spread open to show the six Stamens.—Fig. 2. Germen, Style, and Stigma.—Fig. 3. Capsule, and permanent Style.—Fig. 4. A transverse section of the same.

* So named (by R. A. SALISBURY, Esq. F. R. S. in Annals of Botany) in honour of the late Sir THO. GAGE, Baronet, an excellent British Botanist.

near Kirby-moor-side. Near Doncaster; Stitnam; Dunkirk Wood, near Sleningford, five miles north of Ripon, abundant. Hungry Hill, Robin Hood's Bank, and banks of the Skell, Ripon. In the long flat at Knaresborough. Malham Cove: Bot. Guide. Near Richmond: L. E. O. in Loud. Mag. of Nat. Hist. vol. iii. p. 168.—SCOTLAND. Side of a rivulet near Auchtertool, and in the Den of Forret, four miles from Cupor, Fifeshire. Near Dupplin. Woods at Cortachy Castle, north of Forfar, in abundance, and truly wild: D. Don, Hook. Fl. Scot.

Perennial.—Flowers in March and April.

Bulb small, about the size of a hazel-nut. *Scape* solitary, from 4 to 6 inches high, unequally angular, and terminated by a simple, rarely a double, umbel of 3 or 4, sometimes more, flowers, on angular, smooth, upright flower-stalks, about an inch and a half long; accompanied at the base by 2 or 3 unequal bracteas, one of which is much larger than the others, and longer than the flower-stalks; and one of them occasionally very minute; their edges more or less fringed with soft, loose hairs. *Root-leaf* 1, rarely 2, strap-spear-shaped, pointed, ribbed, keeled, upright, and taller than the scape. *Corolla* of 6 spear-shaped, keeled petals, disposed in two series, the inner of a greenish-yellow colour, the outer green. *Filaments* awl-shaped, flattish. *Anthers* and *Pistils* yellow. *Style* triangular.

The bulbous roots of this species have been used for food, in times of scarcity, in Sweden. STURM says, that the bulbs, roasted in ashes and mixed with honey, are useful in healing sores; and that the expressed juice of the roots is beneficial to children in convulsions.

The *Natural Order* ASPHODE'LEÆ comprises many very pretty, and some handsome plants. They are all monocotyledonous (having only one seed-lobe), herbaceous plants, or occasionally trees, with bulbs, or fasciculated roots. Their *leaves* have parallel veins; their flower-stalks are jointed, or articulated in the middle; and their flowers are coloured. They have a petal-like, regular, 6-parted or 6-cleft *perianthium (corolla)*. Six stamens, which are perigynous (inserted upon the perianthium), or hypogynous (inserted below the germen); the 3 opposite the 3 outer pieces of the perianthium *(sepals)* sometimes either unlike the rest, or wanting. *Ovarium (germen)* superior, of 3 cells, with 2 or many seeds in each cell. *Ovules (unripe seeds)*, when 2, ascending. *Style* one. *Stigma* entire, or with 3 short lobes. The *fruit* is mostly a 3-celled, 3-valved capsule, with a loculicidal dehiscence (i. e. the dissepiments, or partitions, are situated on the middle of the inner surface of the valves); occasionally succulent, and sometimes 3-parted. The *seeds* have a black, brittle, and crustaceous *testa*. The *albumen* is fleshy, and contains the *embryo*.

This order is distinguished from that of LILIA'CEÆ by the smaller flowers, and hard, black, brittle *testa*, or integuments of the seed.—See Professor LINDLEY'S *Introd. to the Nat. Syst. of Bot.* p. 273.





ADÓXA MOSCHATÉLLINA, *TUBEROUS MOSCHATELL.* 2/

J. Nyéll Del. C. Mathews Sc.

Pubd by W. Baxter Botanic Garden Oxford 1833.





ANEMÓNE NEMORÓSA. *WOOD ANEMONE.* 2

I. Pafsfield Del. C. Mathews Sc.

ADO'XA*.

Linnean Class and Order. Octa'ndria †, Tetragy'nia.

Natural Order. Saxifra'geæ, Juss. Gen. Pl. p. 308.—Sm. Gr. of Bot. p. 163.—Lindl. Syn. p. 66; Introduct. to Nat. Syst. p. 49.—Rich. by Macgilliv. p. 511.—Loud. Hort. Brit. p. 517.—Succulentæ, *Linn.*—Rosases; sect. Aralinæ; type, Aralia'ceæ, Burn. Outl. of Bot. pp. 614, 765, & 767.

Gen. Char. *Calyx* (fig. 3.) half inferior, 2- or 3-cleft, segments permanent, flat and spreading. *Corolla* (figs. 1 & 2.) of one petal, wheel-shaped, in 4 or 5 deep, egg-shaped, pointed, spreading segments, which are longer than the calyx. *Filaments* 8 or 10, awl-shaped, as long as the calyx. *Anthers* (fig. 4.) terminal, 1-celled, roundish. *Germen* half superior. *Styles* 4 or 5, simple, short, upright, a little spreading, united at their base, which is permanent (see f. 5). *Stigmas* simple. *Berry* (fig. 6.) globose, 1-celled, half invested with the permanent calyx, whose segments surround the middle part of it. *Seeds* 4, compressed, each surrounded with a vertical, membranous border.

The terminal flower only is 4-cleft, with 8 stamens, and 4 pistils; the lateral ones are 5-cleft, with 10 stamens, and 5 pistils: hence, according to a rule assumed by Linnæus, this genus is placed in *Octándria Tetragy'nia.*—Distinguished from other British genera of the same class and order, by the half inferior calyx, and monopetalous corolla.

Only one species known.

ADO'XA MOSCHATE'LLINA. Tuberous Moschatell.

Eng. Bot. t. 453.—Curt. Fl. Lond. t. 137.—Linn. Sp. Pl. p. 527.—Huds. Fl. Angl. (2nd ed.) p. 172.—Sm. Fl. Brit. v. i. p. 432. Engl. Fl. v. ii. p. 242.—With. (7th ed.) v. ii. p. 501.—Lind. Syn. p. 67.—Hook. Brit. Fl. p. 184.—Light. Fl. Scot. v. i. p. 209.—Sibth. Fl. Oxon. p. 131.—Abb. Fl. Bedf. p. 91.—Purt. Midl. Fl. v. i. p. 202.—Relh. Fl. Cant. (3rd ed.) p. 165.—Hook. Fl. Scot. p. 123.—Grev. Fl. Edin. p. 91.—Fl. Devon. pp. 71 & 168.—Walk. Fl. Oxf. p. 116.—Perry's Pl. Varvic. Selectæ, p. 37.—Bab. Fl. Bath. p. 19.—*Adóxa tuberósa*, Gray's Nat. Arr. v. ii. p. 493.—*Moschatellina foliis Fumariæ bulbosæ*, Ray's Syn. p. 267.—*Radix cava minima viridi flore*, Johnson's Gerarde, 1091.

Localities.—Moist woods, groves, thickets, and shady hedges. Not uncommon.—*Oxfordsh.* Shotover Plantations; Southleigh; and woods near Ashford Mills: Dr. Sibthorp. South side of Shotover Hill: 1813; Mr. James Hinton. Hedge-banks between Shotover Hill and the Plantations; and in the Plantation, in great abundance, in flower April 16, 1831. On a Heath between Barton and Stanton St. John, a little beyond Bayswater; in a lane near Stow Wood; and in Headingtou-Wick Copse, in fruit June 4, 1831: W. B.—*Berks;* In a

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Fig. 1. A terminal Corolla, with 8 Stamens.—Fig. 2. A lateral Corolla, with 10 Stamens.—Fig. 3. Calyx and Pistils.—Fig. 4. A Segment of the Corolla, showing the insertion of the Stamens.—Fig. 5. Calyx aud Pistils, magnified.—Fig. 6. A Berry, surrounded by the remains of the Calyx.

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* From *a* Gr. privative, *without;* and *doxa*, Gr. *glory;* void of show; from the humble and insignificant aspect of this little flower.

† The 8th class in the Artificial System of Linnæus, comprising those plants which have perfect flowers with 8 distinct stamens in each.—When the number of *stamens* and *pistils* differ in different flowers on the same plant, as is the case with *Adoxa*, it was a rule laid down by Linnæus, that the class and order should then be determined by the number of those organs in the terminating flower, in which they are found to be constant.

copse near Wootton Heath; and under hedges, bushes, &c. on the left hand side of the road just before you come to Bagley Wood, going from Oxford to Abingdon: W. B. Near Sandhurst: Mr. W. A. Delamotte.—*Bedfordsh.* Aspley, Renhold, and Clapham: Rev. C. Abbot.—*Cambridgesh.* About Chesterton, and Shalford: Rev. R. Relhan.—*Devon.* Chudleigh, Ashburton, Totness, and Lustleigh: road-side between Manaton and North Bovey; Withecombe Wood, near Exmouth; Tavistock, &c.: Fl. Dev.—*Hampsh.* Near Boarhunt: Rev. S. Palmer, in Mag. Nat. Hist.—*Kent;* About Tenterden: Mr. W. Pamplin, jun. In Charlton Wood, near London: Mr. W. Curtis.—*Leicestersh* Ulvescroft Priory, near Charnwood Forest: Rev. A Bloxham, in Mag. of Nat. Hist. v. iii. p. 167.—*Shropsh.* Dingles, near Hord's Park: Mr. Purton.—*Somersetsh.* Frequent about Bath: Rev. C. C. Babington.—*Warwicksh.* Alcester Mill, in the rough ground by the flood-gates: Mr. Purton. In the wood on the S. W. side of the pool at Edgbaston, plentiful; and in the woods to the N. of Aston Park, near Birmingham: Dr. Withering. Grove at Wootton Grange, &c. not rare: Mr. W. G. Perry.—*Wilts;* About Great Bedwyn: W. Bartlett, Esq.—SCOTLAND. In the Hermitage: Dr. Parsons, in Lightf. Fl. Scot. Near the top of Craig-chailliach, Breadelbane: Mr. Stuart, ibid. Frequent about Glasgow, in woods, and about the roots of hedges: Mr. Hopkirk, in Hook. Fl. Scot. Banks of the Helvin, Glasgow: Mr. Murray, ibid. Moist woods opposite the Bleachfield, Rosslyn: Mr. Neill, in Grev. Fl. Edin. Wood near the Paper-Mill, at Colinton: Mr. D. Stuart, ibid. Between Lasswade and Rosslyn: Mr. Arnott, ibid. Braid Burn; bank opposite Melville Castle: Dr. Graham, ibid. Arniston Woods, and at Craiglockhart, but rare: Dr. Greville, ibid.

Perennial.—Flowers in April and May.

Root white, fleshy, creeping, with tooth-like scales. *Stems* solitary, upright, simple, and nearly square, 3 or 4 inches high. *Root-leaves* 2 or 3, on long foot-stalks, biternate (twice ternate), lobed and cut, smooth and shining; segments or lobes egg-shaped, with a short point. *Stem-leaves* 2, simply ternate, opposite, smaller than the root-leaves, and on short stalks. *Flowers* pale yellowish-green, forming a round head, which is composed of 5 flowers, one of which is terminal, with a 2-cleft calyx, a 4-cleft corolla, 8 stamens, and 4 pistils; 4 are lateral, with a 3-cleft calyx, a 5-cleft corolla, 10 stamens, and 5 pistils. *Fruit* a berry, becoming pulpy as it ripens.

This is an unobtrusive little plant, flowering as early as the latter end of March, or the beginning of April, and ripening its berries in May, soon after which its leaves decay. It delights to grow in moist shady places in woods, and similar situations; a circumstance which has not escaped the notice of the poet.

> "*Adoxa* loves the greenwood shade;
> There, waving through the verdant glade,
> Her scented seed she strews."

The flowers have a musky smell in the evening, or early in the morning while moist with dew; and hence, by some, called *Musk Crowfoot.*

The cryptogamic Botanist will find two interesting little parasites on the leaves and stems of this plant in the vicinity of Oxford, viz. *Puccinia Adoxæ* of Decandolle, and *Æcidium albescens*, of Dr. Greville; the latter is a beautiful little plant, remarkable for its general white aspect, which partly arises from the surface of the leaf being blistered for some distance round the plant. See *Grev. Fl. Edin.* pp. 432 & 444.

ANEMO'NE*.

Linnean Class and Order. POLYA'NDRIA†, POLYGY'NIA.

Natural Order. RANUNCULA'CEÆ; Sect. 1.—Juss. Gen. Pl. p. 231.—Sm. Gram. of Bot. p. 136.—Lindl. Syn. p. 7.—Rich. by Macgil. p. 465.—RANUNCULA'CEÆ, Sect. II. ANEMO'NEÆ. Lind. Introd. to the Nat. Syst. pp. 6 & 8.—Loud. Hort. Brit. pp. 495 & 496.—ROSALES, sect. RANUNCULI'NÆ; subsect, RANUNCULIANÆ. Type, RANUNCULACEÆ; Subtype, ANEMONEÆ; Burnett's Outl. of Bot. pp. 614, 828, 832, 837, & 838.

GEN. CHAR. *Involucrum* of 3 divided leaves, which are more or less distant from the flower. *Calyx* none. *Petals* from 5 to 15, inferior, regular, in one or more rows, imbricated in the bud, deciduous. *Filaments* (f. 1.) numerous, hair-like, about half the length of the corolla. *Anthers* terminal, of 2 round lobes, which burst outwardly. *Germens* superior, numerous, collected into a round or oblong head. *Styles* (f. 2 & 3.) tapering, short. *Stigmas* simple, bluntish. *Seeds (Pericarps*, Hook. Br. Fl.) numerous, pointed, tipped with the permanent *styles*, which in some species become feathery tails.—The 3-leaved, involucrum, the imbricated æstivation of the flower, number of petals, (from 5 to 15), numerous seeds, and the want of a calyx and nectaries, will distinguish this genus from others, in the same class and order.

Tuberous rooted, stemless *herbs*, with stalked, more or less divided, or compound *leaves*, and solitary or aggregate *flowers*, on radical stalks, with a leafy *involucrum* or *bractea*. *Flowers* blue, purplish, red, white, or yellow. Very variable.

Four species British.

ANEMO'NE NEMORO'SA. Wood-Anemone. Wood-Nymph. Wind-Flower.

SPEC. CHAR. Flowers solitary. Petals 6, oval. Seeds pointed, without tails. Involucrum of 3 ternate or quinate, stalked, lobed, and cut leaves.

Eng. Bot. t. 355.—Curt. Fl. Lond.—Linn. Sp. Pl. p. 762.—Huds. Fl. Angl. (2nd edit.) p. 236.—Sm. Fl. Brit. v. ii. p. 581. Engl. Fl. v. iii. p. 36.—With. (7th ed.) v. iii. p. 671.—Lindl. Syn. p. 9.—Hook. Brit. Fl. p. 264.—Lightf. Fl. Scot. v. i. p. 284.—Sibth. Fl. Oxon. p. 170.—Abbot's Fl. Bedf. p. 119.—Purt. Midl. Fl. v. i. p. 256.—Relh. Fl. Cant. (3rd ed.) p. 219.—Hook. Fl. Scot. p. 171.—Grev. Fl. Edin. p. 122.—Fl. Devon. pp. 92 & 193.—Johnst. Fl. of Berw. v. i. p. 121.—Walk. Fl. of Oxf. p. 153.—Bab. Fl. Bath. p. 1.—Mack. Catal. of Pl. of Irel. p. 52.—*Anemóne némorum alba*, Ray's Syn. p. 259.—Johnson's Gerarde, 383.—*Anemonánthea nemorósa*, Gray's Nat. Arr. v. ii. p. 725.

LOCALITIES.—In woods, hedges, thickets, and on heaths.—Common.

Perennial.—Flowers in April.

Root tuberous, nearly cylindrical, creeping horizontally under the surface of the earth, chesnut-coloured on the outside, white within,

Fig. 1. Stamens.—Fig. 2. Germens and Styles.—Fig. 3. A separate Germen.—Fig. 4. A Seed.—Fig. 5. The same magnified.

* From *anemos*, Gr. *the wind*; because many of the species grow in exposed situations. Dr. HOOKER, in Br. Fl.

† The 13th class in the LINNEAN *Artificial System*, containing those plants which have perfect flowers, with more than 20 distinct stamens in each, inserted into the receptacle, below the pistillum *(hypogynous)*.

brittle, and furnished with brown fibres. *Leaves* on long foot-stalks, ternate or quinate, mostly 3-cleft, always irregularly cut; the margin and ribs slightly hairy. *Involucrum* of 3 similar leaves, with shorter leaf-stalks, situated above half way up the *flower-stalk*, which is simple and slightly hairy. *Flowers* rather drooping, solitary. *Petals* white, often purplish at the back, each more than half an inch long, of an oblong-oval shape, with a shallow notch at the summit. *Germens* (figs. 2 & 3.) downy. *Seeds* (figs. 4 & 5.) beaked with the *style* almost their own length.—The *flowers* expand in fine clear weather, but close, and bend downwards in the evening, or in wet weather, whereby the delicate parts of the flower are secured from injury. Mr. HUTTON observed a variety with the petals entirely of a purplish red colour, near Keswick; the same variety has been observed in Devonshire; and in a grass ground on the North side of Shotover Hill, near Oxford, in April, 1831. A double-flowered variety is commonly cultivated in gardens. The whole plant is acrid. According to LINNÆUS, oxen, goats, and sheep eat it, but horses and swine refuse it. Cattle brought from open to woody pastures, and eating of this plant, have been effected with the bloody-flux.—Dr. WITHERING informs us, on the authority of SWEDIAUR, that the recent flowers are poisonous; that the plant yields an acrid, volatile principle, so corrosive as to be used externally, instead of cantharides; and that it is serviceable in head-aches, tertian agues, and rheumatic gout.

A beautiful little parasite, *Æcídium leucospérmum* of DECANDOLLE, (Baxter's Stir. Crypt. Oxon. No. 89), is not uncommon on the leaves, and sometimes on the flowers of this *Anemóne*, in the vicinity of Oxford, especially in Bagley Wood, and on Shotover Hill. It also produces, on its leaves and leaf-stalks, the *Puccínia Anemónes* of PERSOON (Baxter's St. Crypt. Oxon. No. 82) in plenty. *Urédo Anemónes* is also found upon it, but not common. The roots are sometimes attacked by *Peziza tuberósa*, (SOWERBY's Fungi. t. 63), which is very destructive to them. I once lost a whole bed of British *Anemones*, consisting of *Anemóne nemorósa*, double and single; *A. Ranunculoides;* and *A. Apennina*‡; entirely through the ravages of this fungus.

A leaf of *Anemóne nemorósa*, with *Puccínia anemónes* growing on its under surface, was mistaken by Dr. DILLENIUS for a species of Fern, and was by him described and figured as such, in his edition of RAY's Syn. p. 124. t. 3. fig. 1., under the name of *Filix lobata, globulis pulverulentis undique aspersa.* The original specimen, from which the drawing was made, is still preserved in the *Bobartian Herbarium* in the Library of the OXFORD BOTANIC GARDEN. See LOUDON'S Gardeners' Mag. v. iii. p. 490.

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‡ The *Anemóne apennína* has been found by Mrs. PEARCE, of Beaumont-street, Oxford, in a copse near Shillingford, Berks; on the left hand in the lane from Hatford, after crossing the turnpike road; plentiful.



Myle Saunders, Del. BELLIS PERENNIS. COMMON DAISY. L. C. Mathews, Sc.

Pub.d by W. Baxter, Botanic Garden, Oxford. 1833.

BE'LLIS*.

Linnean Class and Order. SYNGENE'SIA, POLYGA'MIA, SUPER'FLUA†.

Natural Order. COMPO'SITÆ‡; Tribe, CORYMBI'FERÆ§, *Juss.*—Lindl. Syn. pp. 140 & 142; Introd. to Nat. Syst. pp. 197 & 199.—COMPOSITÆ; Subtribe, ASTE'REÆ, Loud. Hort. Brit. pp. 520 & 521.—SYNANTHEREÆ; Tribe, CORYMBI'FERÆ.—Rich. by Macgilliv. pp. 454 & 455.—CORYMBI'FERÆ, Sect. III. Juss. Gen. Pl. pp. 177 & 183.—Sm. Gr. of Bot. pp. 121 & 123.—SYRINGALES; Subord. ASTEROSÆ; Sect. ASTERINÆ; Subsect. ASTERIANÆ, Burnett's Outl. of Bot. p. 900, 901, 920, & 924.

GEN. CHAR. *Involucrum (common calyx,* fig. 5.*)* simple, hemispherical, upright, of from 10 to 20 spear-shaped, equal scales (bracteæ), in two rows. *Corolla* compound, rayed; *Florets* of the disk (fig. 1.) numerous, perfect, tubular, with 5 equal spreading segments; those of the ray (fig. 3.) strap-shaped, very slightly notched at the end, more in number than the scales of the calyx. *Filaments* 5, in the tubular florets only, hair-like, very short. *Anthers* forming a cylindrical, notched tube (fig. 2). *Germen (ovarium)* in all the florets inversely egg-shaped. *Style* thread-shaped. *Stigmas* spreading, oblong, rather shorter and thicker in the florets of the disk than in the florets of the ray. *Seed-vessel* none, but the spreading unaltered calyx. *Seed* (fig. 4.) inversely egg-shaped, compressed, without any seed-down. *Receptacle* conical, hollow, and naked, (figs. 5 & 6).—The naked conical *receptacle*, want of *seed-down*, and hemispherical *involucrum* composed of two rows of equal scales, will distinguish this from other genera, with a radiated corolla, in the same class and order.

One species British.

BE'LLIS PERE'NNIS. Common Daisy‖.

SPEC. CHAR. Root creeping. Flower-stalks radical, naked, 1-flowered. Leaves inversely egg-shaped, crenate.

Engl. Bot. t. 424.—Curt. Fl. Lond. t. —Linn. Sp. Pl. p. 1248.—Huds. Fl. Angl. (2nd. ed.) p. 370.—Sm. Fl. Brit. v. ii. p. 897. Eng. Fl. v. iii. p. 447.—With. (7th ed.) v. iii. p. 947.—Lindl. Syn. p. 148.—Hook. Brit. Fl. p. 365.—Gray's Nat. Arr. v. ii. p. 454.—Lightf. Fl. Scot. v. i. p. 487.—Sibth. Fl. Oxon. p. 256.—Abbot's Fl. Bedf. p. 184.—Purt. Midl. Fl. v. ii. p. 409.—Relh. Fl. Cant. (3rd ed.) p. 348.—Hook. Fl. Scot. p. 246.—Grev. Fl. Edin. p. 180.—Fl. Devon. pp. 139 & 160.—Johnston's Fl. of Berk. v. i. p. 186.—Walk. Fl. of Oxf. p. 244.—Bab. Fl. Bath. p. 26.—Mack. Catal. of Pl. of Irel. p. 74.—*Béllis sylvéstris minor*, Ray's Syn. p. 184.—*Béllis minor sylvéstris*, John. Ger. 636.

LOCALITIES.—In meadows and pastures, everywhere.

> "'Tis Flora's page:—in every place,
> In every season fresh and fair,
> It opens with perennial grace,
> And blossoms everywhere.

Fig. 1. A tubular 5-cleft Floret of the Disk, showing the Germens and Stigma.—Fig. 2. The 5 short, slender Filaments, and the united Anthers, which form a cylindrical notched tube, through which the Style passes.—Fig. 3. A strap-shaped Floret of the Ray, showing the Germen, Style, and Stigma.—Fig. 4. A Seed.—Fig. 5. Involucrum and cone-shaped Receptacle, after the seeds are removed.—Fig. 6. A vertical section of the same.—Figs. 1, 2, & 3, are magnified.

* From *bellus, pretty.* † See p. 36. ‡ See p. 27. § See p. 36.

‖ The word Daisy is a compound of day's and eye, Day's-eye. *Flora Domest.*—In Yorkshire it is called *Bairnwort*, probably from the delight which children

On waste and woodland, rock and plain,
Its humble buds unheeded rise;
The Rose has but a summer's reign,
The *Daisy* never dies."—J. Montgomery.

Root somewhat creeping, throwing out many fibres. *Leaves* numerous, mostly radical, inversely egg-shaped, blunt, crenate (notched), more or less hairy, tapering at the base. *Flower-stalks* several, radical, 3 or 4 inches high, ascending, simple, round, solid at the bottom, hollow upwards, hairy, each bearing a solitary flower. *Calyx* dark green, spreading; *scales* or *bracteas*, in two rows. *Florets* of the disk yellow, numerous; those of the ray white, often beautifully tinged with crimson on the outside, especially towards their tips. The *Receptacle* is hollow (fig. 6.), and remarkably convex, or pointed. *Seeds* somewhat inversely egg-shaped, flat, sometimes fringed at the sides¶.

This plant varies very much in size, according to the nature of the soil on which it grows; in poor land it is often little more than an inch high, with a wiry stalk and a small flower; but in rich soil it will rise to the height of from 4 to 6 inches, with all its parts proportionably large. The accompanying engraving, with the exception of the sections, was made from a drawing by Miss Saunders, by whom it was kindly communicated to the Editor. Many varieties of the Daisy are cultivated in gardens, as the double red, the double white, or speckled, and the proliferous, or Hen and Chicken Daisy.

"The Daisy," says Mr. Phillips, "has been made the emblem of Innocence, because it contributes more than any other flower to infantine amusement and the joys of childhood."—"In the days of chivalry it was the emblem of fidelity in love, and was frequently borne at tournaments, both by ladies and by knights."—This little, "modest, crimson-tipped flower," appears ever to have been a general favourite.—"Who," says Miss Kent, "can see, or hear the name of the Daisy, the common Field Daisy, without a thousand pleasurable associations! It is connected with the sports of childhood and with the pleasures of youth. We walk abroad to seek it; yet it is the very emblem of home. It is a favourite with man, woman, and child: it is the *robin* of flowers. Turn it all ways, and on every side you will find new beauty. You are attracted by the snowy white leaves (florets of the ray), contrasted by the golden tuft in the centre (florets of the disk), as it rears its head above the green grass: pluck it, and you will find it backed by a delicate star of green (involucrum), and tipped with a blush-colour, or a bright crimson.

'Daisies with their pinky lashes'

are among the first darlings of Spring.—They are in flower almost all the year; closing in the evening and in wet weather, and opening on the return of the sun."—*Flora Domestica*.

"Star of the mead! sweet daughter of the day,
Whose opening flower invites the morning ray,
Oft have I watched thy closing buds at eve,
Which for the parting sun-beams seemed to grieve;
And, when gay morning gilt the dew-bright plain,
Seen them unclasp their folded leaves again."—Leyden.

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take in gathering these flowers. Withering.—The French call it *Marguerite*, the name of a woman, expressive of beauty, from *margarita*, a pearl. Dr. Hooker.

¶ The leaves of the Daisy are slightly acrid; and the roots have a penetrating pungency. Withering.—In some parts of Germany it is said to be boiled and eaten with meat, as a pot-herb; but it does not seem to promise much, either as physic or food, for man. Curtis.—Horses, sheep, and cows refuse it. Linnæus.





ALOPECURUS PRATENSIS. *MEADOW FOX-TAIL GRASS.* ♃

Pubby W. Baxter Botanic Garden Oxford 1833

ALOPECU'RUS*.

Linnean Class and Order. TRIA'NDRIA†, DIGY'NIA.

Natural Order. GRAMI'NEÆ. *Juss.*—Lind. Syn. p. 293.; Introd. to Nat. Syst. Bot. p. 292.—Rich. by Macgilliv. p. 393.

GEN. CHAR. *Calyx* (fig. 3.) of 2 valves (glumes), containing one floret. *Valves* egg-spear-shaped, pointed, compressed, ribbed, nearly equal, often united at the base. *Corolla* (fig. 1.) of one concave, ribbed, pointless valve (palea), about the same length as the calyx. *Awn* arising from the base of the palea, (fig. 1.) and above twice its length, roughish, finally twisted and reflexed. *Filaments* 3, hair-like. *Anthers* cloven at each end. *Germen* roundish. *Styles* 2, hair-like, more or less united at the base. *Stigma* long, feathery, spreading. *Seed* egg-shaped, smooth, loose, and covered with the palea.—Distinguished from other genera of *Gramineæ* by the densely contracted spike-like panicle, the 1-flowered spikelets, awnless glumes, and single palea with an awn arising from its base.

Six species British.

ALOPECU'RUS PRATE'NSIS. Meadow Fox-tail-Grass.

SPEC. CHAR. Culm upright, smooth. Panicle spiked, cylindrical, blunt. Glumes pointed, hairy, united at the base; Awn twice the length of the palea.

Eng. Bot. t. 759.—Curt. Fl. Lond. t. 296.—Host's Icones et Descriptiones Graminum Austriacorum, v. ii. p. 24. t. 21.—Knapp's Gramina Britannica, t. 14.—Huds. Fl. Angl. (2nd ed.) p. 27.—Sm. Fl. Brit. v. i. p. 72. Eng. Fl. v. i. p. 79.—With. (7th ed.) v. ii. p. 148.—Mart. Fl. Rustica, t. 6.—Lind. Syn. p. 299.—Hook. Br. Fl. p. 27.—Graves' British Grasses, t. 21.—Leers' Flora Herborneusis, p. 15. t. 2. f. 4.—Sinclair's Hortus Gramineus Woburnensis, p. 139.—Gray's Nat. Arr. v. ii. p. 142.—Sibth. Fl. Oxon. p. 34.—Abbot's Fl. Bedf. p. 12.—Purt. Midl. Fl. v. i. p. 67.—Relh. Fl. Cant. (3rd ed.) p. 27.—Curtis on Grasses, (5th ed.) p. 8. t. 2.—Hook. Fl. Scot. p. 21.—Grev. Fl. Edin. p. 14.—Trinius', De Graminibus, p. 142.—Walk. Fl. of Oxf. p. 17.—*Gramen Alopecuro simile glabrum, cum pilis longiusculis in spica*, Ray's Syn. p. 396.—*Gramen Alopecuroides majus*, Johnson's Gerarde, 10.

LOCALITIES.—Meadows and pastures.—Common.

Perennial.—Flowers in May.

Root fibrous. *Culms (stems)* from 18 inches to 3 feet high, upright, jointed, smooth, striated, leafy, the part between the upper joint and the panicle somewhat twisted. *Leaves* a little glaucous, flat, roughish on the upper side, nearly smooth on the under; from 4 to 10 inches long, and about a quarter of an inch broad, gradually tapering to a point. *Sheaths* long, furrowed, smooth, and slightly swollen. *Stipula* (a whitish membrane at the summit of the sheath) short, and blunt. *Panicle* densely spiked, an inch and a half to

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Fig. 1. The 3 Stamens and 2 Pistils, and the Corolla, or Palea, with the Awn arising from its base.—Fig. 2. The Germen, Styles, and Stigmas.—Fig. 3. A Floret, showing the Glumes, the Palea, the Stamens, and the Pistils.

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* From *alopex*, Gr. a *fox*, and *oura*, Gr. a *tail*; in allusion to the form of the spike. WITHERING.

† The third class in the Artificial System of LINNÆUS, containing all those plants which have perfect flowers with 3 distinct stamens in each.

two inches or more in length; round, cylindrical, blunt, soft, with silvery hairs. *Calyx-glumes* united at the base, hairy, compressed. *Corolla (palea)* folded, nearly as long as the calyx-glumes, with 5 green ribs, and a prominent dorsal awn. *Anthers* prominent, yellow, or purplish. *Styles* entirely united. *Stigmas* separate, long, slender, and feathery. *Seed* egg-shaped, small.

This is one of our very best Grasses for permanent pasture, being early, plentiful in produce, and grateful to cattle in general. It has the power of vegetating very quickly, and will bear to be cut twice in a year to advantage. It naturally prefers a moist soil, and is best adapted for the improvement of such wet meadows as have been drained of their superfluous moisture, where, if due attention be paid in its introduction, it soon forms itself into a close thick turf, and from its rapidity of growth will maintain itself against many of the more powerfully creeping kinds. Mr. SINCLAIR informs us, in his very excellent and valuable work, the *Hortus Gramineus Woburnensis*, that this Grass constitutes part of the produce of all the richest pastures he had examined in Lincolnshire, Devonshire, and in the Vale of Aylesbury; and that he found it still more prevalent in Mr. Westcar's celebrated pastures at Creslew than in those of Lincolnshire and Devon.

"Useful as is this Grass, yet the produce of the seed is not equal to what one might fancy, from the simple observance of the spiked head, which is capacious enough to afford abundance; a species of fly, we are told, deposits upon the plant its eggs, and as the young larvæ are produced, they feed upon the sweet and milky substance which the tender germ contains, and which in time would be matured to seed: the depredations of this fly are said to be so great, that shortly every germ must be destroyed, had not nature appointed another insect to seek this animal as its food! *Cimex campestris* is the leviathan who takes his pastime there, and gorges on the delicate and helpless larvæ: and Mr. SWAYNE observes, 'so corpulent does it become through its gluttony, that although it is provided with wings it can scarcely make use of them, nor even walk with agility; it is probable it destroys thousands in a day.' Could we carry our researches farther, there is little doubt but this *Cimex* becomes, in its turn, an instrument to the being of higher orders of creation, and they to others, and thus, by successive gradations, contribute to the existence of Nature's noblest animal! who seems, in every instance, to have been the designed favourite of his Creator; and ultimately all his good works perfect themselves in order, some to satisfy his natural wants, some for his comfort, and some even for his fanciful desires; and all teach us to receive them with gratitude, and enjoy them with humility." Mr. KNAPP, in *Gramina Britannica.*





ASPÉRULA ODORÁTA. *SWEET WOODRUFF.* 1/

W.A.Delamotte Del.t Pub.d by W.Baxter Botanic Garden. Oxford 1833. C.Mathews Sc.

ASPE'RULA*.

Linnean Class and Order. TETRA'NDRIA, MONOGY'NIA.

Natural Order. STELLA'TÆ. *Linnæus.*—Lind. Syn. p. 128.; Introduct. to Nat. Syst. p. 202.—RUBIA'CEÆ, Sect. 1. *Juss.*—Rich. by Macgilliv. p. 459.

GEN. CHAR. *Calyx* superior, of 4 small teeth, deciduous. *Corolla* (figs. 1 & 2.) monopetalous (of one petal), funnel-shaped. *Tube* nearly cylindrical, various in length. *Limb* in 4, occasionally but 3, deep, oblong, spreading segments. *Filaments* 4, short, in the mouth of the tube, alternate with the segments of the limb. *Anthers* of 2 round lobes. *Germen* inferior, of 2 roundish lobes. *Style* thread-shaped, divided at the upper part. *Stigma* capitate, small. *Fruit* dry, not crowned by the calyx, of 2 cells, and 2 seeds. *Seeds* solitary, roundish, large.

The superior, monopetalous, tubular corolla, and 2-seeded dry fruit, without a crown, will distinguish this genus from others in the same class and order.

Two species British.

ASPE'RULA ODORA'TA. Sweet Woodruff, or Woodroof.

SPEC. CHAR. Leaves about 8 in a whorl, spear-shaped. Flowers panicled, on long stalks.

Engl. Bot. t. 755.—Curt. Fl. Lond. t. 249.—Huds. Fl. Angl. (2nd. ed.) p. 66.—Sm. Fl. Brit. v. i. p. 172.—Engl. Fl. v. i. p. 197.—With. (7th ed.) v. ii. p. 220.—Lind. Syn. p. 130.—Hook. Brit. Fl. p. 65.—Gray's Nat. Arr. v. ii. p. 481.—Lightf. Fl. Scot. v. i. p. 115.—Sibth. Fl. Oxon. p. 57.—Abbot's Fl. Bedf. p. 32.—Purt. Midl. Fl. v. i. p. 101.—Relh. Fl. Cantab. (3rd ed.) p. 57.—Hook. Fl. Scot. p. 50.—Grev. Fl. Edin. p. 35.—Walk. Fl. of Oxf. p. 36.—*Aspérula*, Ray's Syn. p. 224.—Johnson's Gerarde, p. 1124.

LOCALITIES.—In woods and shady places: not uncommon.—Woods and shady places about Oxford. Dr. SIBTHORP, in Fl. Oxon.—Copse on the banks of the Evenlode, near Ashford Mill, Oxon: and in Bagley Wood, Berks. W. B.—Oversley: Spernal: and Ragley Woods, Warwickshire. Mr. PURTON, in Midl. Fl.—In the Plantations about Coton House, near Rugby, Warwickshire. Mr. NELSON, 1831.—Aspley: King's Wood, near Ampthill, Bedfordshire. Rev. C. ABBOT, in Fl. Bedf.—Fulbourn: Kingston: Hall Wood; Cambridgeshire. Rev. R. RELHAN, in Fl. Cant.—Common in woods about London, especially Charlton Wood. Mr. CURTIS, in Fl. Lond.—Woods in Surrey. Mr. W. PAMPLIN, jun.—Woods in Hertfordshire. Mr. WOODWARD, in With. Bot. Arr.—Near Armingdale Wood, Norwich. Mr. CROW, ibid.—About Chepstow, plentiful in the hedges. Mr. PITT, ibid.—At the Leasowes, near Halesowen. Dr. WITHERING, ibid.—Woods about Garn, Denbighshire. Mr. GRIFFITH, ibid.—In Langton Copse, and Broadly Wood, near Blandford. Dr. PULTENEY, ibid.—Beech Wood on Lansdown. Rev. H. T. ELLICOMBE,

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Fig. 1. Corolla and Germen.—Fig. 2. Corolla opened lengthways, to show the 4 Stamens.—Fig. 3. Germen, Style, and Stigmas.—Fig. 4. Fruit.—Fig. 5. A hooked Bristle of the fruit.—All, except fig. 4. a little magnified.

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* From *asper*, Lat. *rough*, owing to the roughness of some species of the genus.

† The 4th class in the Artificial System of LINNÆUS, containing all those plants which have perfect flowers with four distinct equal stamens in each.

ibid.—Anglesey. Rev. H. Davies, ibid.—Woods and shady places in Scotland, plentiful. Dr. Hooker, in Fl. Scot.—Debris below Salisbury Craigs. Mr. Neill, in Grev. Fl. Edin.—Rosslyn and Auchindenny Woods, abundant: Colinton Woods: Braid Hermitage. Dr. Greville, in Fl. Edin.—Plentiful at the Dargle, Ireland. Mr. J. T. Mackay, in Catal. of Pl. of Ireland.

Perennial.—Flowers in April and May.

Root creeping, slender, jointed, of a yellowish colour. *Stems* upright, from 6 to 10 or 12 inches high, simple, smooth, four-cornered, with a groove on each side. *Leaves* growing generally 8 together in a whorl round the stem, spear-shaped, pointed, about an inch long, spreading, smooth, a little rolled back at the sides, the margins and midrib set with small spines, which point towards the summit. *Panicles* generally 3 together, at the top of the stem, on longish stalks, which are forked and subdivided. *Flowers* small, pure white, with a short tube; fragrant chiefly at night. *Fruit* rough, with projecting hooked bristles.

The strongly aromatic flowers infused in water, it is said, far excel in flavour the teas imported from China; and the whole plant, as soon as it begins to dry, diffuses a pleasant and lasting fragrance, like that of new hay, verging towards the flavour of bitter almonds. In Germany it is used to give a grateful flavour to wine. When kept among clothes it not only imparts an agreeable perfume to them, but it is said also to preserve them from insects. According to the observations of Linnæus, cows, horses, sheep, and goats, eat it; swine refuse it.

The English names of this plant in old authors are very various: Turner, in his *Herbal*, published in 1568, calls it *Wood-rose*, or *Wood-rowell*, from the whorls of leaves resembling some kinds of *rowels* of *spurs*. Gerarde *Woodrooffe*, *Woodrowe*, and *Woodrowell*. Parkinson *Woodroofe*. Dr. Withering says, that in some old authors it is spelt *Woodderowffe*. The repetition of the double letters in this word often affords great amusement to children learning to spell. (w oo dd e — r o w ff e.)



EPIMÉDIUM ALPÍNUM. *ALPINE BARRENWORT.* ♃

W.A.Delamotte Del.' Pub'd by W.Jaxter Botanic Garden Oxford 1835. Mathews Sc

EPIME'DIUM*.

Linnean Class and Order. TETRA'NDRIA, MONOGY'NIA.

Natural Order. BERBERI'DEÆ. *Ventenant.*—Lind. Syn. p. 14.; Introd. to Nat. Syst. Bot. p. 30.—Rich by Macgilliv. p. 469.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 4 small, egg-shaped, concave, blunt, spreading, deciduous leaves. *Corolla* of 4 egg-shaped, equal, blunt, concave, spreading petals, (fig. 2.) which are opposite to the leaves of the calyx. *Nectaries* 4, cup-shaped, (fig. 3.) blunt, equal, one lying upon each petal, and nearly as long, attached underneath to the *receptacle*, by one side of the orifice. *Filaments* 4, awl-shaped, upright, close to the style. *Anthers* oblong, 2-celled, attached longitudinally to the inner side of the filament, below its summit, each cell opening by a valve, which bursts from the bottom and rolls back. *Germen* (fig. 5.) oblong, with a furrow at the back. *Style* roundish, as long as the stamens. *Stigma* simple. *Pod* oblong, pointed, of 1 cell and 2 valves. *Seeds* numerous, oblong.—Distinguished from other genera, in the same class and order, by a corolla of 4 petals, 4 large hollow nectaries, lying on the petals, a superior, 1-celled, many-seeded pod, and a deciduous calyx.

One species British.

EPIME'DIUM ALPI'NUM. Alpine Barrenwort.

SPEC. CHAR. Root-leaves none; Stem-leaf twice or thrice ternate.

Engl. Bot. t. 438.—Flora Græca, v. ii. p. 39. t. 150.—Sm. Fl. Brit. v. i. p. 187.—Eng. Fl. v. i. p. 220.—With. (7th ed.) v. ii. p. 235.—Lindl. Syn. p. 15.—Hook. Br. Fl. p. 68.—Gray's Nat. Arr. v. ii. p. 708.—Hook. Fl. Scot. p. 55.—Grev. Fl. Edin. p. 38.—*Epimédium*, Johnson's Gerarde, 480.—Black. Spec. Bot. p. 19.

LOCALITIES.—Woods, and in mountain thickets.—Very rare.—In woods near Bingley, about six miles from North Bierley, Yorkshire, where it was first found by Dr. RICHARDSON, prior to 1740. See BLACKSTONE's Spec. Bot.—(Mr. HAILSTONE, in Whitaker's Craven, observes, that it is not now to be found in Bingley Woods. Dr. WITHERING, in Bot. Arr.)—Dr. WITHERING informs us that Mr. ROBSON sent him a specimen, which was gathered on SKIDDAW, in July, 1795; and that he had also specimens from the Rev. T. GISBORNE, whose plants were discovered in 1787, in a very wild part of Cumberland, called Carrock Fell.—On Saddleback, near Threlkeld, Cumberland. Mr. HUTTON and Mr. RUDGE, in Bot. Guide.—About the ruins of Mugdoch Castle, near Glasgow, abundantly. Mr. HOPKIRK, in Hook. Fl. Scot.—Hunter's Tryste, near Edinburgh. Dr. HASTINGS, ibid.

Perennial.—Flowers in May.

Root somewhat creeping, of a reddish-brown colour on the outside, yellowish-white within. *Stems* upright, stiff, unbranched,

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Fig. 1. A Sepal, (Calyx leaf).—Fig. 2. A Petal.—Fig. 3. One of the Nectaries.—Fig. 4. Stamens and Pistil.—Fig. 5. Germen, Style, and Stigma.—Fig. 6. Pod (Siliqua).—Fig. 7. The same, with one of the valves removed to show the seeds.

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* "Name of obscure origin: applied by DIOSCORIDES to a plant, which some suppose to be the *Botrychium Lunaria*, and which grew plentifully in Media." Dr. HOOKER.

round, smooth and shining, from 6 inches to about a foot high, each bearing at its summit one compound leaf, which is twice or thrice ternate. *Petioles (leaf-stalks)* swollen at the base. *Leaflets* an inch and a half, or two inches long, heart-shaped, pointed, very delicate, smooth on the upper side, hairy and somewhat glaucous on the under, slightly serrated, the serratures tipped with a short bristle; lateral leaflets unequal, and all, more or less, reclining towards the ground. *Raceme (cluster)* branched, springing from the swollen base of the leaf-stalk, shorter than the leaf. *Flowers* nodding, rather handsome, and furnished with 4 curious, membranous, inflated, yellow *nectaries*, which are nearly as large as the petals, and are generally full of honey. *Anthers* very curious, of 2 cells, and 2 lid-like valves, which open elastically, and allow the pollen to escape.

The *Epimédium Alpinum* is a singular and rather a handsome plant, and is well deserving a place in the Flower Garden. It will grow in almost any situation, but thrives best in the shade. Its curiously constructed flowers will amply repay a careful investigation of them. The insertion of the sepals, the petals, the nectaries, and the stamens, are all opposite to each other, and not alternate, as in most instances.

It appears to have been known to GERARDE as early as the 16th century, for he tells us, in his *Herbal*, published at London in 1597, that this rare and strange plant was sent to him from the French King's herbarist, ROBINUS, who dwelt in Paris, at the sign of the Black Head, in the street called *Du bout du Monde, (the end of the world)*. "I planted it," says he, "in my garden, but it was dried away with the extreme heat of the sun, which happened in the year 1590, since which time it bringeth seed to perfection."—JOHNSON, in his edition of GERARDE'S *Herbal*, published in 1633, adds, that it grew in the garden of his friend Mr. JOHN MILION, in Old-Street, and some other gardens about town.—It is said to be a native of the Alps, and Apennines, and also of Japan, as well as of England and Scotland.





ANCHÚSA. SEMPERVÍRENS. *EVERGREEN ALKANET* 2/

J. Dale imp. — Vickers

ANCHU'SA*.

Linnean Class and Order. PENTA'NDRIA†, MONOGY'NIA.

Natural Order. BORAGI'NEÆ, *Jussieu's Genera Plantarum*, p. 128.; Lindl. Syn. p. 163.; Introd. to Nat. Syst. p. 241.—Rich. by Macgilliv. p. 440.—Sir J. E. Smith's Grammar of Botany, p. 102.—ASPERIFO'LIÆ, *Ray* and *Linnæus.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of one leaf, oblong, cylindrical, in 5, more or less deep, pointed segments, permanent. *Corolla* (fig. 2.) of one petal, funnel-shaped; Tube strait, cylindrical, tumid in the lower part, as long as the calyx; Limb more or less spreading, in 5 rather deep, blunt, equal lobes; Mouth closed with 5 upright, blunt, vaulted, hairy, converging valves. *Filaments* 5, very short, in the throat of the corolla, alternate with the valves. *Anthers* oblong, concealed by the valves. *Germen* (fig. 3.) superior, 4-parted. *Style* cylindrical, shorter than the tube. *Stigma* cloven. *Seeds* (*Nuts* of Lindl. Syn.) roundish, or blunt, wrinkled, each hollowed out at the base. (See figs. 4, 5, & 6.)

The funnel-shaped corolla, strait tube, and obtuse, entire, concave valves at its orifice, will distinguish this from other genera with a monopetalous, inferior corolla, and 2 or 4 apparently naked seeds, in the same class and order.

Two species British.

ANCHU'SA SEMPERVI'RENS. Evergreen Alkanet.

SPEC. CHAR. Flower-stalks axillary, each bearing two dense spikes, with an intermediate flower, and two principal egg-shaped bracteas. Leaves egg-shaped, pointed.

Engl. Bot. t. 45.—Hook. Fl. Lond. t. 94.—Huds. Fl. Angl. (2nd ed.) p. 80.—Sm. Fl. Brit. v. i. p. 215.—Engl. Fl. v. i. p. 258.—With. (7th ed.) v. ii. p. 280.—Lindl. Syn. p. 165.—Hook. Br. Fl. p. 82.—Lightf. Fl. Scot. v. i. p. 133.—Relh. Fl. Cant. (3rd ed.) p. 81.—Purt. Midl. Fl. v. iii. p. 22.—Hook. Fl. Scot. p. 68.—Grev. Fl. Edin. p. 45.—Walk. Fl. of Oxf. p. 49.—Mack, Catal. of Pl. of Ireland, p. 21.—*Buglossa sempervirens*, Gray's Nat. Arr. v. ii. p. 352.—*Buglossum latifolium semper virens*, Dillenius, in Ray's Synopsis, p. 227.—*Borago semper virens*, Johnson's Gerarde, p. 797.

LOCALITIES.—In waste ground, among ruins, and by way-sides: rare.—At Rousham, Oxon. Miss ARMETRIDING, in Walker's Flora of Oxfordshire.—At Edgbaston, near Birmingham, and Brettel-lane, near Stourbridge. SCOTT, in Purt. Midl. Fl.—Near Horns-place, near Rochester, Kent. Mr. J. SHERARD, in Ray's Syn.—On Boughton Hill, and in a churchyard near Feversham, Kent. L. W. DILLWYN, Esq. in Bot. Guide.—Emmanuel College, in the Master's close, under one of the walnut-trees. Back Yard of Christ's College. Rev. R. RELHAN, in Fl. Cant.—Vauxhall, Surrey. Dr. MARTYN.—By the road-

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Fig. 1. Calyx.—Fig. 2. Corolla opened vertically to show the Stamens and Valves.—Fig. 3. Germen, Style, and Stigma.—Fig. 4. Calyx and Seeds.—Figs. 5 & 6. Seeds.—All, except fig. 4. magnified.

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* From *agchousa*, Gr. *paint.* The roots of one species, *Anchusa tinctoria*, yield a red dye, which has been used in former times to stain the face. Dr. HOOKER, in Brit. Fl.

† The 5th class in the Linnean Artificial System, comprehending all those plants which have perfect flowers, with five distinct stamens in each.

side at Great Yeldham. Mr. E. Foster, jun.—Road-side at Walthamstow, Essex, possibly from a garden. Mr. W. Pamplin, jun.—Near Maidenhead; and Kenton. Rev. Dr. Beeke.—Near Sidmouth. Dr. Withering.—About Barnstaple. Dr. Maton.—On Durnsford Hill, between Exeter and Moreton Hampstead, Devon. Mr. E. Forster, jun. in Bot. Guide.—About Fawey. Mr. E. Forster, jun.: and near Liskeard, Cornwall. Mr. D. Turner, ibid.—About Norwich in several places, as well as at Haddiscoe, Norfolk. Sir J. E. Smith, in Engl. Fl.—At Walpole, by Halesworth, Suffolk. Dr. Hooker, ibid.—Bury, in the lanes near Haberdon. Sir T. G. Cullum.—At Framlingham, in the way to Parham, past the watery lane. Rev. G. Crabb.—Burgh Castle, near the gardens; Suffolk. Mr. Wigg, in Bot. Guide.—Plentifully on a bank between Lewes and Southover; Sussex. W. Borrer, Esq. ibid.—On the road between Kendal and Ambleside, two or three miles from the former town. Rev. J. Harriman, ibid.—The Blanketts, near Worcester. Mr. Ballard.—By the road between Settle and Ingleton, Yorkshire. Mr. Teesdale, ibid.—In Mamhead churchyard, and near Dartmouth, Devon. Rev. Pike Jones, in With. Bot. Arr.—Among the ruins of Basingwerk Abbey, near Holywell. Mr. Griffith.—In the parish of Whiteford. Mr. Pennant.—And on the ruins of Maes-glâs Monastery, Flintshire. Rev. W. Bingley.—At Inverary. Rev. W. Wood, in Sm. Engl. Fl.—At Bagland, near Neath, Glamorganshire. Mr. J. Woods, jun. in Bot. Guide.—Glen of Dunglass. Dr. Parsons, in Hook. Fl. Scot.—Deanbank, near the village of the Water of Leith: Road-sides between Crossgates and Keltie, Kinross-shire. Mr. Maughgan, ibid.—Banks of the Clyde, above Hamilton: near Chatelherault and Castlemilk, Glasgow. Mr. Hopkirk, ibid.—Craig-Millar Castle, Edinburgh. Mr. Neill, 1799. in Grev. Fl. Edin.—In hedges near Douglass, in the county of Cork. Mr. Drummond, in Mack. Catal. of Plants of Ireland.

Perennial.—Flowers from May to August.

Root thick, mucilaginous; black on the outside, nearly white within. *Stems* from a foot to 18 inches high, round, slightly angular, leafy, and clothed with projecting, rigid hairs or bristles. *Root-leaves* stalked, about a span long, egg-shaped, pointed, of a deep, dark green, lasting through the winter. *Stem-leaves* alternate, upper ones sessile, egg-shaped, broad, and marked, like the root-leaves, with transverse veins. *Flower-stalks* axillary (growing between a leaf and the stem), from an inch and a half to 2 inches and a half long, each divided at the top into two short, close spikes, with an intermediate flower, and two principal egg-shaped bracteas. *Partial Bracteas* spear-shaped. *Calyx* rather longer than the tube of the corolla, thickly clothed with white bristly hairs. *Corolla* with a shorter tube than in most other species of Anchúsa, and more salver-shaped than funnel-shaped. *Limb* of a beautiful sky blue; tube short, nearly white; the valves white and downy. *Seeds* (*Nuts* of Lind. Syn.) egg-shaped, brown, compressed, with elevated wrinkles, and a cavity at the base of each‡.

One of our prettiest native plants, and well deserving a place in the Flower Garden.

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‡ "The Alkanet roots produced in England are very inferior for yielding a fine red colour, to those of *A. tinctoria* grown in the Levant. The cortical parts only give the dye." Dr. Withering.



HIPPÚRIS VULGÁRIS. *COMMON MARE'S-TAIL.* 1/

C. Mathews Del.t & Sc.t

HIPPU'RIS*.

Linnean Class and Order. MONA'NDRIA†, MONOGY'NIA‡.

Natural Order. HALORA'GEÆ. *Dr. R. Brown.*—Lindl. Syn. p. 110; Introd. to Nat. Syst. p. 57.—HYGROBIEÆ. Rich by Macgilliv. p. 521.—NAIADES. *Juss.*—Sm. Gram. of Bot. p. 66.

GEN. CHAR. *Calyx* superior, scarcely discernable, forming a minute rim to the oval *Germen*, (figs. 1 & 2). *Corolla* none. *Filament* one, superior, upright, fixed within the calyx, produced as the anther ripens. *Anther* of two round lobes, at first sessile. *Style* awl-shaped, lying in a channel of the anther, (fig. 1). *Stigma* simple, pointed. *Fruit* (fig. 3.) a small, 1-celled, 1-seeded nut.

Distinguished from other genera in the same class and order, by the very minute, superior calyx, simple stigma, and 1-seeded fruit.

One species British.

HIPPU'RIS VULGA'RIS. Common Mare's Tail.

SPEC. CHAR. Leaves linear, many in each whorl.

Eng. Bot. t. 763.—Curt. Fl. Lond. t. 287.—Huds. Fl. Angl. (2nd ed.) p. 2.—Sm. Fl. Brit. v. i. p. 4. Engl. Fl. v. i. p. 4.—With. (7th ed.) v. ii. p. 6.—Lind. Syn. p. 110.—Hook. Brit. Fl. p. 2.—Don's General System of Gardening and Botany, v. ii. p. 705. f. 104.—Gray's Nat. Arr. v. ii. p. 556.—Lightf. Fl. Scot. v. i. p. 70.—Sibth. Fl. Oxon. p. 1.—Abbot's Fl. Bedf. p. 1.—Purt. Midl. Fl. v. iii. p. 3.—Relh. Fl. Cant. (3rd ed.) p. 2.—Hook. Fl. Scot. p. 2.—Grev. Fl. Edin. p. 1.—Mackay's Catal. of Plants found in Ireland, p. 7.—Johnson's Flora of Berwick-upon-Tweed, (1829) v. ii. p. 272.—Walk. Fl of Oxf. p. 1.—*Limnopeuce*, Ray's Syn. p. 136.—*Cauda equina fœmina*, Johnson's Gerarde, p. 1114.

LOCALITIES.—In lakes, ponds, and watery ditches.—Not common.—*Oxfordshire;* Blenheim Park; Ensham Common; Binsey Common: Dr. SIBTHORP, in Fl. Oxon. Ditches near the Canal between High Bridge and Hayfield's Hut; in Port Meadow; and between Oxford and Botley: 1833. W. B.—*Bedfordshire;* In ditches, common: Rev. C. ABBOT, in Fl. Bedf.—*Buckinghamshire;* In a lake near a bridge in the Duke of Buckingham's Park at Stow, plentiful: 1831. W. B.—*Cambridgeshire;* In ponds, ditches, marshes, and rivers: Rev. R. RELHAN, in Fl. Cant.—*Cumberland;* In Old Eden, parish of Aldingham, and at Low Gelt Bridge, Brampton: Mr. HUTCHINSON, in With. Bot. Arr.—*Durham;* In the Skerne, near the bridge at Darlington: and at Hell Kettles: Rev. J. T. FENWICK, in Winch's Botanist's Guide through the Counties of Northumberland and Durham, (1805).—*Gloucestershire;* A lake in Tortworth Park: Mr. BAKER, in With. Bot. Arr.—*Hampshire;* Common in streams about Alresford, and Winchester: Mr. W. PAMPLIN, jun.—*Lancashire;* Almost everywhere in muddy ditches in the N. W. part of the county: Mr. HALL. At Bootle, and in ditches about Formby, near Liverpool: Dr. BOSTOCK, in With.

Fig. 1. A Flower in a young state, showing the Stamen, the Germen, and the Style.—Fig. 2. The same in a more advanced state.—Fig. 3. The Fruit.—Fig. 4. A transverse slice of the Stem, showing the large Air Cells.—All, more or less, magnified.

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* From *Ippos*, Gr. a *horse*, and *oura*, Gr. a *tail;* from a fancied resemblance in its mode of growth. WITHERING.

† From *monos*, Gr. *one*, and *aner*, Gr. The first of the twenty-four classes of the Artificial System of LINNÆUS: it comprehends all those plants which produce perfect flowers, (i. e. flowers which have each of them one or more stamens and pistils,) with only one stamen in each.

‡ "From *monos*, Gr. *one*, and *gune;* here made applicable to the *pistil*, or *style*, an essential part of the pistil; or, when the style is so short as not to be visible, the stigmas are counted. The student will do well to bear in mind the meaning of the names applied to the Linnean Classes and Orders, for they are beautifully expressive of their essential characters." Dr. HOOKER.

Bot. Arr.—*Middlesex ;* Near Hornsey : Hudson, in Fl. Angl. In Harefield River, and in a bog on Uxbridge Moor, plentiful : Blackstone, in Spec. Bot. p. 20.—*Norfolk ;* Near Lynn, and in other parts of the county : Sir J. E. Smith, in Fl. Brit.—*Northamptonshire ;* Near the bridge entering Brockhall Lawn from Norton : Mr. Griffith, in Withering.—*Northumberland ;* At Prestwick Carr : Winch's Guide.—*Staffordshire ;* About a mile from Stafford, in ditches adjoining the foot-road to Aston : Dr. Withering, in Bot. Arr.—*Suffolk ;* About Bungay, very common : Mr. Woodward, in Bot. Guide.—*Yorkshire ;* In the lakes on Brigstear Moss, about four miles from Kendall, plentiful : Mr. Curtis, in Fl Lond.—In rivers and rivulets about Castle Howard : Mr. R. Teesdale, in Trans. of Linn. Soc. v. ii. p. 104. Near Rotherham : Mr. Langley, in Loud. Mag. of Nat. Hist. v. ii. p. 269.—WALES. *Flintshire ;* In ditches adjoining Rhyd Marsh, near Prestatyn : Mr. Griffith, in With. Bot. Arr.—*Berwick-upon-Tweed ;* In the Leet below Belville Farm, in the parish of Eccles : Rev. A. Baird, in Fl. of Berwick. Lithtillum Loch and Ferneyrig Marsh : Mr. R. D. Thomson, ibid.—SCOTLAND. Lochend and Duddingston Loch near Edinburgh : Mr. Brown, in With. Bot. Arr.—Castle Semple Loch near Glasgow : Mr. Hopkirk, in Hook. Fl. Scot.—About Forfar : Mr. G. Don, ibid.—Loch of Clunie, and Marsh of Bonachalley : Mr. Arnott, ibid.—IRELAND. Plentiful in the ponds in Mr. White's demesne at Woodlands : Mr. J. T. Mackay, in Catal. of Plants of Ireland.

Perennial.—Flowers in May and June.

Root creeping, white, throwing out numerous slender fibres from the joints. *Stems* numerous, rising a foot or more above the water, upright, simple, round, smooth, striated, jointed, spongy, with a central column containing spiral vessels. *Leaves* from 8 to 10 or 12 in a whorl round each joint of the stem, sessile, narrow, strap-shaped, from half an inch to three quarters of an inch, or more, long, somewhat callous at the points, quite entire, without nerves. *Flowers* very simple, sessile, one at the base of each of the upper leaves, the lower ones often without stamens. *Calyx* very minute, forming a slightly elevated rim on the top of the germen. *Filament* attached to the inside of the calyx, at first very short, (fig. 1.) but afterwards becoming as long as the pistil, (fig. 2). *Anthers* very large, of two roundish lobes, when young having the style passing between the lobes, (fig. 1). *Style* short, naked. *Stigma* tapering to a point, white and downy when magnified. *Germen* inferior, oval. *Fruit* a small 1-celled nut, (fig. 3.) containing a single, inverted seed.

Dr. Hooker informs us, in his *British Flora*, that in deep streams of water connecting the little Lakes, or *Broads*, at Surlingham, Norfolk, he had had this plant pointed out to him, by Mr. Deere, 2 and 3 feet long, with the leaves excessively crowded, 3, and even 4 inches long, pellucid, with an opaque nerve, their points not callous ; the whole plant submerged, and consequently barren. On Ben-y-gloe, in Scotland, at a considerable elevation above the sea, the same distinguished Botanist found a variety, the opposite extreme of this, scarcely 4 inches high, and apparently the *Hippuris montana* of *Reich Ic.* t. 86.

According to the observations of Linnæus, goats will eat this plant, but cows, sheep, horses, and swine refuse it. Gmelin says, that wild-ducks in the North feed upon it ; and it is reputed to assist in purifying the air in standing water, marshes, &c.—A transverse slice of the stem (fig. 4.) is a beautiful microscopic object.



VERONICA CHAMÆDRYS. *GERMANDER SPEEDWELL. 2l*

W. H. Delamotte del.

C. Mathews Sc.

VERONICA*.

Linnean Class and Order. DIA'NDRIA†, MONOGY'NIA.

Natural Order. SCROPHULARI'NEÆ. *Dr. R. Brown.*—Lindl. Syn. p. 187; Introd. to Nat. Syst. Bot. p. 228.—SCROPHULA'RINÆ. Rich. by Macgilliv. p. 434.—SCROPHULA'RIÆ. *Juss.*—Sm. Gram. of Botany, p. 100.

GEN. CHAR. *Calyx* (fig. 3.) monosepalus (of one leaf), inferior, permanent, in 4, rarely 5, deep, spear-shaped, pointed, more or less unequal segments. *Corolla* (fig. 1.) monopetalous (of one petal), wheel-shaped, deciduous, tube nearly as long as the calyx; limb flat, in 4 deep, unequal, entire segments, the lower one smallest, the upper broadest. *Filaments* 2, spreading, tapering downwards. *Anthers* oblong. *Germen* compressed. *Style* thread-shaped, as long as the stamens, declining (bent downwards). *Stigma* small, notched. *Capsule* (fig. 2.) various in shape, either egg-shaped, oval, or inversely heart-shaped, compressed at the point, of 2 cells, and 4 valves. *Seeds* numerous, roundish.

The monopetalous, wheel-shaped corolla of 4 unequal segments, of which the lower is the smallest, and the superior capsule of 2 cells and 4 valves, will distinguish this genus from all others in the same class and order.

Nineteen species British.

VERONICA CHAMÆ'DRYS. Wild Germander. Germander Speedwell.

SPEC. CHAR. Cluster lateral. Leaves egg-shaped, sessile, wrinkled, deeply serrated. Stem diffuse (loosely spreading), hairy, but the hairs disposed only in two opposite longitudinal lines. Calyx 4-cleft, spear-shaped.

Engl. Bot. t. 623.—Curt. Fl. Lond. t. .—Huds. Fl. Angl. (2nd ed.) p. 6.—Sm. Fl. Brit. v. i. p. 22. Engl. Fl. v. i. p. 23.—With. (7th ed.) v. ii. p. 20.—Lindl. Syn. p. 189.—Hook. Br. Fl. p. 6.—Mart. Fl. Rust. t. 66.—Lightf. Fl. Scot. v. i. p. 74.—Sibth. Fl. Oxon. p. 5.—Abbot's Fl. Bedf. p. 4.—Purt. Midl. Fl. v. i. p. 50.—Relh. Fl. Cant. (3rd ed.) p. 9.—Hook. Fl. Scot. p. 7.—Grev. Fl. Edin. p. 4.—Johns. Fl. of Berw. v. i. p. 7.—Jones and Kingston's Fl. Devoniensis, pp. 3 & 149.—Walk. Fl. of Oxf. p. 5.—Mack. Catal. of Pl. of Ireland, p. 3.—*Veronica bibarbata*, Gray's Nat. Arr. v. ii. p. 307.—*Veronica chamædrys sylvestris dicta*, Ray's Syn. p. 281.— *Chamædrys sylvestris*, Johnson's Gerarde, p. 657.

LOCALITIES.—In woods and pastures, and on hedge-banks.—Common.

Perennial.—Flowers in May and June.

Root somewhat creeping. *Stems* procumbent (lying on the ground), or somewhat ascending, a foot long, with two opposite hairy lines, which take different sides between each pair of leaves.

Fig. 1. Corolla, Stamens, and Pistil.—Fig. 2. Capsule.—Fig. 3. Calyx.

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* "From the Romish Saint of that name, but how connected is not obvious. Among various conjectures as to the origin of this name, the most rational seems to be, that it was compounded of the Greek words *phero, to bring*, and *nike, victory;* alluding to its supposed efficacy in subduing diseases." WITHERING.

† The 2nd class in the Linnean Artificial System, containing all those plants which have perfect flowers, with 2 distinct stamens in each.

Leaves opposite, sessile, rarely somewhat stalked, egg-shaped, strongly veined, wrinkled, deeply serrated, most hairy about the margin. *Clusters (Racemes)* axillary, generally opposite, simple, upright, long, pointed, many-flowered, rising above the stem, their stalk hairy all round. *Flowers* numerous, on slender pedicels (partial flower-stalks), with a spear-shaped bractea (floral-leaf) at the base of each. Divisions of the *Calyx* 4, spear-shaped, hairy, hairs tipped with a minute globule. *Corolla* transient, but very beautiful, expanding only in fine weather, bright blue, with darker streaks, and a white centre; their outside pale and flesh-coloured. *Capsule* small, inversely heart-shaped, hairy round the edge, shorter than the calyx. *Seeds* flat, of a reddish brown colour ‡.—When this plant is cultivated in a garden, the leaves, especially the upper ones, often become elevated on foot-stalks, thus approaching *Veronica montana*, which it much resembles.—Mr. Borrer found a variety with *white flowers*, at Udimere, near Rye in Sussex.

The plants which compose the Natural Order Scrophulari'neæ are *dicotyledonous*, generally *herbaceous*, seldom *shrubs*, with opposite, sometimes alternate, *leaves*. Their *inflorescence* various. They have an inferior, monosepalous, divided, permanent *calyx*. A monopetalous, hypogynous *(inferior), usually irregular, deciduous *corolla*, with an imbricated æstivation. Two or 4 *stamens;* when 4, 2 of them are longer than the other 2 (didynamous), very seldom equal. The *ovarium (germen)* is superior, of 2 cells, with many seeds in each; the style is simple, and terminated by a 2-lobed *stigma*. The *fruit* is a 2-celled capsule, (very rarely a berry), with from 2 to 4 valves, which are either entire or bifid; the dissepiment (partition) is either double, arising from the incurved margins of the valves; or simple, and in that case either parallel with, or opposite to, the valves. The *placentæ (receptacles* of the seed) are central, and are either united to the dissepiment, or separate from it. The *seeds* are numerous, and contain, under their proper integument, a kernel, composed of a fleshy albumen (a white, farinaceous, fleshy substance, destined to nourish the embryo of the seed), which encloses a straight cylindrical embryo, having its radicle (root-let) turned towards the hilum (scar).—See *Lindl. Syn.* and *Rich. by Macgilliv.*—Veronica is the only *British Genus* in this order that has only 2 stamens.

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‡ This beautiful little plant is one of the principal ornaments to our hedge-banks in the months of May and June. It is often mistaken for the real German *Forget-me-not, (Myosótis palústris,)* but differs from that in having only 2 stamens instead of 5; in the corolla being wheel-shaped, with 4 unequal segments, instead of salver-shaped, with 5 equal lobes. It differs also in its place of growth, which is generally on dry banks, or in woods; while the real *Forget-me-not* is almost always found to grow near water, as on the margins of rivers, ponds, and watery ditches, or in wet boggy places.—Dr. Withering says the leaves are a better substitute for tea than those of *Veronica officinalis*, being more grateful and less astringent.—According to the observations of Linnæus, cows and goats eat it, but horses, sheep, and swine refuse it.—At the end of Summer we often find globular cottony knobs, or galls, on this plant; these are caused by a minute species of *Cynips*, or gall-fly, which punctures the plant, and then deposits its eggs in the substance of the stem.



CHELIDÓNIUM MÁJUS. *COMMON CELANDINE.* 2/

W.A. Delamotte, Del.t

C. Mathews, Sc.t

CHELIDO'NIUM*.

Linnean Class and Order. POLYA'NDRIA, MONOGY'NIA.

Natural Order. PAPAVERA'CEÆ. *Juss.*—Lindl. Syn. p. 16; Introd. to Nat. Syst. p. 8.—Rich. by Macgilliv. p. 497.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 2 roundish, egg-shaped, concave, pointed, smooth, deciduous sepals (leaves). *Corolla* of 4 equal, roundish, flat, spreading petals, which are narrowest at the base. *Filaments* (fig. 2.) about 30, flat, broadest upwards, shorter than the corolla. *Anthers* oblong, vertical, compressed, upright, 2-lobed. *Germen* (fig. 4.) superior, cylindrical, as long as the stamens. *Style* none. *Stigma* small, blunt, cloven. *Pod* (fig. 5.) linear, somewhat cylindrical, of 1 cell, and 2 undulated, deciduous valves, (fig. 7). *Seeds* (figs. 8 & 9.) numerous, oval, dotted, polished, with a pale, compressed, notched *crest* (fig. 9.) along the upper edge; arranged in 2 rows, on short stalks, along a linear, permanent, marginal *receptacle (placenta)*, (fig. 6.) at each side between the edges of the valves.

Distinguished from other genera of the same class and order, by the 2-leaved calyx, the 4-petalled corolla, 1-celled pod, and crested seeds.

One species British, according to Sir J. E. SMITH; two according to Dr. LINDLEY.

CHELIDO'NIUM MA'JUS. Common Celandine.

SPEC. CHAR. Peduncles (flower-stalks) umbellate. Leaves pinnatifid (wing-cleft), with rounded segments, the lobes of which are toothed. Petals elliptical, entire. *De Candolle.*

Engl. Bot. t. 1581.—Woodv. Med. Bot. Suppl. t. 263.—Huds. Fl. Angl. (2nd ed.) p. 228.—Sm. Fl. Brit. v. ii. p. 563. Engl. Fl. v. iii. p. 4.—With. (7th ed.) v. iii. p. 643.—Lindl. Syn. p. 18.—Hook. Brit. Fl. p. 257.—Gray's Nat. Arr. v. ii. p. 702.—Lightf. Fl. Scot. v. i. p. 278.—Sibth. Fl. Oxon. p. 164.—Abbot's Fl. Bedf. p. 115.—Purt. Midl. Fl. v. i. p. 252.—Relh. Fl. Cant. (3rd edit.) p. 211.—Hook. Fl. Scot. p. 167.—Grev. Fl. Edin. p. 119.—Rev. G. E. Smith's Plants of South Kent, p. 29.—Johnson's Fl. of Berwick, v. i. p. 119.—Fl. Devon. pp. 89 & 192.—Walk. Fl. of Oxf. p. 147.—Mack. Catal of Pl. of Ireland, p. 51.—Johnson's Gerarde, p. 1069.—*Papaver corniculatum luteum, Chelidonia dictum*, Ray's Syn. p. 309.

LOCALITIES.—In hedges, rough shady places, on rubbish, old walls, and uncultivated ground.

Perennial.—Flowers in May, June, and July.

Root somewhat spindle-shaped. *Stem* from 1 to 2 feet high, branched, swollen at the joints, leafy, round, smooth, or slightly hairy. *Leaves* alternate, smooth, very deeply pinnatifid (wing-cleft),

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Fig. 1. Calyx.—Fig. 2. Stamens.—Fig. 3. A separate Stamen, a little magnified.—Fig. 4. Germen.—Fig. 5. Pod.—Fig. 6. The same with two valves removed, showing the Seeds attached to the marginal placenta.—Fig. 7. One of the Valves.—Fig. 8. A Seed.—Fig. 9. The same magnified, showing the Crest.

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* From *chelidon*, Gr. a *swallow*; probably from the plant flowering at the time of the arrival of those birds. Dr. HOOKER.

† The 13th class in the Linnean Artificial System, containing all those plants which have perfect flowers, with more than 20 distinct stamens in each, inserted into the receptacle, below the pistil, *(hypogynous)*.

with 2 or 3 pair of lobes, and a larger terminal one, all rounded, bluntly lobed, and notched; the lateral lobes sometimes dilated at their lower margin, near the base, almost as if auricled (eared); of a deep shining green above, glaucous green underneath. *Flower-stalks* long, umbellate at the top. *Calyx* yellowish green, or tawny, smooth, sometimes hairy. *Petals* 4, bright yellow. *Stamens* various in number, from 20 to 25, sometimes less than 20, seldom so many as 30. *Seeds* black and shining, each with a white deciduous *crest*, (fig. 9). It approaches to the class *Tetradynámia* in the cruciform shape of the corolla, and its silique or pod; which, however, differs essentially, in being only 1-celled. Every part of the plant is brittle, and full of an orange-coloured juice, which is fœtid, and very acrid. It is said to cure tetters and ringworms. Diluted with milk it consumes white opake spots on the eyes. It destroys warts, and cures psora. Mr. SALISBURY says, in his *Botanist's Companion, v. ii. p.* 82, that it is an excellent medicine in the jaundice, and other obstructions of the viscera, and if taken with perseverance will do great service against the scurvy. It should be used fresh, as it looses the greatest part of its virtue in drying. The root is very bitter, and is greatly esteemed among the natives of Cochin-China, for a variety of medical purposes.

A double-flowered variety is sometimes admitted into gardens; and it has been found wild near Battersea in Surrey, by Mr. W. PAMPLIN, jun.

Variety β, of Sir J. E. SMITH'S Flora Britannica, and English Flora, was first mentioned as a British plant, though merely as a variety, by Dr. DILLENIUS, in the 3rd edition of *Ray's Synopsis*, p. 309, where he informs us that it was observed plentifully among the ruins of the DUKE of LEEDS' seat at Wimbleton, by Mr. MARTYN. This variety differs from the first in the segments of the leaves being cut into narrow, strap-shaped, jagged, pointed lobes; and in the petals being deeply cut into 2 or 3 principal divisions, which are again cut or serrated. Professors DE CANDOLLE and LINDLEY consider this as a distinct species, *(Chelidonium laciniatum,)* but Sir J. E. SMITH, Dr. WITHERING, and Professor HOOKER, retain it as a variety of *Ch. majus*. Mr. PHILLIP MILLER informs us, in his *Gardener's Dictionary*, that he propagated it by seeds for more than 30 years, and never found it vary. I have myself cultivated it in the Oxford Botanic Garden, (where it is now become a weed,) nearly 20 years, and have never found it to change.



SENÉCIO SQUÁLIDUS. *INELEGANT RAGWORT.* ☉

W.A.Delamotte,Del.t C. Mathews,Sc.t

SENE'CIO*.

Linnean Class and Order. SYNGENE'SIA, POLYGA'MIA, SUPE'RFLUA †.

Natural Order. COMPO'SITÆ‡. Tribe, CORYMBI'FERÆ §. *Juss.*—Lindl. Syn. pp. 140 & 142; Introduct. to Nat. Syst. pp. 197 & 199.—SYNANTHE'REÆ. Tribe, CORYMBI'FERÆ.—Rich. by Macgilliv. pp. 454 & 455.

GEN. CHAR. *Involucrum (common calyx)* (fig. 1.) double; the inner cylindrical, of numerous, equal, parallel, strap-shaped, contiguous scales; the outer of a smaller number of minute imbricated scales at the base of the former, and, like those, all withered-looking, and generally black at the tips. *Corolla* compound, longer than the calyx; *florets* of the disk (fig. 2.) numerous, all perfect, (having both stamens and a pistil,) tubular, with 5 equal segments; *florets* of the ray (fig. 3.) strap-shaped, slightly toothed, various in length, without stamens, sometimes (as is the case in *senecio vulgaris*, or common groundsel) the florets of the ray are wanting. *Filaments* 5, slender, short. *Anthers* united into a cylindrical tube. *Germen*, in all the florets, inversely egg-shaped, small. *Style* thread-shaped, as long as the stamens. *Stigmas* 2, oblong, spreading. *Seed-vessel* none, but the unchanged, finally spreading, calyx (fig. 4). *Seed* inversely egg-shaped, rather angular. *Seed-down* simple, sessile, hair-like, roughish (fig. 5). *Receptacle* naked, tessellated, slightly convex.

Herbaceous or *shrubby* plants, with an upright *stem;* undivided, serrated, or variously pinnatifid, smooth, or downy, *leaves*. And corymbose *flowers*, which are, in all the British species, yellow.—Distinguished from other genera in the same class and order, by the naked *receptacle*, simple *seed-down*, and the double *involucrum*, or *common calyx*, the scales of which have withered-looking, black tips.

Ten species British.

SENE'CIO SQUA'LIDUS. Inelegant Ragwort.

Fig. 1. Calyx.—Fig. 2. A Floret of the Disk.—Fig. 3. A Floret of the Ray.—Fig. 4. Calyx reflexed, showing the receptacle and a seed.—Fig. 5. A single Ray of the Down or Pappus.—All, except Figs. 1 & 4, more or less magnified.

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* From *senex, an old man;* or *senescere, to grow old;* the flowers going off early, and producing their seeds crowned with a down, like grey hairs.—Dr. MARTYN.

† The second order of the Linnean class SYNGENE'SIA, comprehending all those compound flowers in which the *florets of the disk* have, each of them, 5 stamens and a pistil, and the *florets of the ray* a pistil only, and all producing perfect seed.

‡ See *Prenánthes Murális*, p. 27

§ This tribe contains all those COMPO'SITÆ in which the florets of the disk are *floscular (tubular)*, and which have the stigma *not* articulated with the style. See *Achillea Ptarmica*, p. 36.

Spec. Char. Rays spreading, its florets elliptical, nearly entire. Leaves smooth, pinnatifid, with distant, and somewhat strap-shaped, segments.

Engl. Bot. t. 600.—Sm. Fl. Brit. v. ii. p. 883. Eng. Fl. v. iii. p. 431.—With. (7th ed.) v. iii. p. 937.—Lindl. Syn. p. 146.—Hook. Br. Fl. p. 361.—Gray's Nat. Arr. v. ii. p. 470.—Purt. Midl. Fl. v. iii. p. 64.—Walk. Fl. Oxf. p. 241.—*Senécio Chrysanthemifólius*, Bivona Bernardi Cent. 2. 52; *fide Sir J. E. Smith.*

Localities.—On walls, and among rubbish.—*Oxfordshire;* very common on walls, and among rubbish, in and about Oxford.—*Berkshire;* On a wall at Wytham, on the left hand side just as you enter the village from Godstow. May 22, 1833. W. B.—*Devonshire;* On walls and rubbish at Biddeford: E. Forster, Esq. in Hook. Br. Fl.

Annual.—Flowers from May to October.

Root fibrous. *Stem* upright, from a foot to 18 inches high, branched, leafy, smooth, striated, often a little hairy. *Leaves* nearly or quite smooth, bright green, rather fleshy, either sessile or somewhat stem-clasping, deeply wing-cleft, the segments narrow, nearly strap-shaped, pointed, distant, and more or less toothed, their margins somewhat revolute (rolled back), sometimes purplish underneath. *Flowers* loosely corymbose, terminal, upright, not numerous, accompanied with small awl-shaped *bracteas* on the partial stalks. *Calyx* smooth, inner scales narrow, strap-shaped, equal, outer fewer, small, loose, all of them tipped with black; reflexed when the seeds are ripe. *Florets* all of a bright golden yellow; those of the disk very numerous; of the ray about 12, oval, broad, slightly 3-toothed at the extremity, generally spreading, but becoming revolute as they fade. *Seeds* a little silky. *Down* (fig. 5.) roughish. The plant smells like Tansy or Mugwort.

The late Sir Joseph Banks is said to have been the first who noticed this species on the walls about Oxford. Dillenius is recorded to have sent seeds of it to Linnæus, but whether he gathered them from the Oxford Garden, or from the walls of the town, is uncertain. It is a native of Sicily and the South of Europe; and it is not improbable but it originally naturalized itself about Oxford from seeds which escaped from the Botanic Garden. There is no doubt but it is the *senecionis species* alluded to by Dr. Sibthorp, in his Preface to the *Flora Oxoniensis*, p. 8, (1794); but it was not published as a British plant till the late Sir James Edward Smith inserted it in the *English Botany*, and in his *Flora Britannica*, published in 1800.

The trivial name *squalidus*, or *inelegant*, seems misapplied, as it is one of the handsomest British species in the genus.





PAPÁVER SOMNÍFERUM. *WHITE POPPY.* ○

G. Harrell Del. Pub^d by W. Baxter Botanic Garden Oxford C. Mathews Sc.

PAPA'VER*.

Linnean Class and Order. POLYA'NDRIA†, MONOGY'NIA.

Natural Order. PAPAVERA'CEÆ‡. *Juss.*—Lindl. Syn. p. 16; Introd. to Nat. Syst. p. 8.—Rich. by Macgilliv. p. 497.

GEN. CHAR. *Calyx* inferior, of 2 egg-shaped, concave, blunt, equal, deciduous sepals. *Corolla* of 4 large, roundish, crumpled, spreading petals, which are narrowest at the base; 2 opposite ones smallest. *Filaments* (fig. 1.) numerous, hair-like, much shorter than the corolla. *Anthers* terminal, upright, somewhat stalked, oblong, blunt, compressed. *Germen* large, roundish or oblong. *Style* none. *Stigma* peltate (shield-shaped), radiated, downy, permanent. *Capsule* egg-shaped, or inversely egg-shaped, or oblong, coriaceous (of a leathery substance), large, of one cell, opening by minute valves concealed beneath the permanent stigma. *Placentæ (Receptacles of the seeds)* projecting into the cavity, and forming as many incomplete dissepiments (partitions) as there are rays of the stigma. *Seeds* very numerous, kidney-shaped, minute, dotted, attached to the dissepiments.

Herbaceous plants, with divided leaves, and a white milky juice; the peduncles (flower-stalks) drooping before flowering. Flowers large, various in colour, mostly scarlet or yellow, rarely white or purplish. Capsules bristly or smooth.—The 2-leaved calyx, 1-celled capsule, and sessile radiated stigma, will distinguish this from other genera with a tetrapetalous (4-petalled) corolla, in the same class and order.

Six species British.

PAPA'VER SOMNI'FERUM. White Poppy.

SPEC. CHAR. Capsule nearly globular, smooth as well as the calyx and stem. Leaves embracing the stem, notched, glaucous.

Engl. Bot. t. 2145.—Woodv. Med. Bot. v. iii. p. 503. t. 185.—Huds. Fl. Angl. (2nd ed.) p. 231.—Sm. Fl. Brit. v. ii. p. 568. Eng. Fl. v. iii. p. 11.—With. (7th ed.) v. iii. p. 648.—Lindl. Syn. p. 17.—Hook. Brit. Fl. p. 256.—Gray's Nat. Arr. v. ii. p. 705.—Don's Gener. Syst. of Gard. and Bot. v. i. p. 131.—Sibth. Fl. Oxon. p. 166.—Purt. Midl. Fl. v. i. p. 250.—Relh. Fl. Cant. (3rd ed.) p. 214.—Hook. Fl. Scot. p. 168.—Fl. Devon. p. 90.—Walk. Fl. of Oxf. p. 149.—Mack. Catal. of Plants of Ireland, p. 51.—*Papáver Sylvéstre*, Ray's Syn. p. 308.—Johnson's Gerarde, p. 370.

LOCALITIES.—On sandy ground in Fens. Uncultivated places.—*Oxfordshire;* Near the Observatory, Oxford; by Godstow Nunnery: Dr. SIBTHORP, in Fl. Oxon. Cornfields at Mapledurham, plentiful, July 21, 1833: Mr. A. R. BURT.—*Cambridgeshire;* Waterbeach Fen; on the banks of the closes which separate Denny Farm from the Ely Road; Rampton: Rev. R. RELHAN, in Fl. Cantab.—*Devon;* On cliffs between Sidmouth and Branscombe:

Fig. 1. Stamens.—Fig. 2. Germen and Sessile, radiated Stigma.—Fig. 3. Capsule cut through transversely, showing the Placentæ projecting into the cavity, and forming incomplete partitions.—Fig. 4. A Seed highly magnified.

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* From *papa, pap,* because it was used with *pap,* and given to children to induce sleep; a custom, says Dr. THORNTON, which has carried thousands to the grave.

† The 13th class in the LINNEAN *Artificial System,* containing all those plants which have perfect flowers, with more than 20 distinct stamens in each, inserted into the receptacle, below the pistil *(hypogynous).*

‡ See *Meconopsis Cambrica,* page 51.

Rev. Mr. Tozer, in Fl. Devon.—*Durham;* Willington Ballast Hills: Mr. Winch, in Bot. Guide.—*Kent;* Cornfields about Dartford: Mr. S. Woods. Near the Medway at Rochester: Mr. Winch, in Bot. Guide.—*Norfolk;* On the banks of all the fen ditches, where the soil is sandy, in the parish of Hockwold cum Wilton; certainly wild: Rev. Mr. White, in Bot. Guide.—*Staffordshire;* Moat of Tutbury Castle, with flowers much smaller than the cultivated sort: Mr. W. Christy, in With. Bot. Arr.—*Warwickshire;* Cornfields near the road going from Rugby to Barby, and on Jarrett's Heath near Rugby, rare, (1831), probably escaped from gardens, but the plants were much smaller than those usually cultivated.—SCOTLAND. *Angusshire;* On newly-trenched ground in the neighbourhood of Delvine House, near Coupar: Miss Watson, in Sm. Engl. Fl.—IRELAND. Sandy fields near Kilbarrick Church. Wayssides opposite Lord Howth's Deer-park, and other places about Howth; not common: Mr. Mackay, in Catal. of Pl. of Ireland.

Annual.—Flowers in June and July.

Root tapering, with several strong fibres. *Stem* upright, 3 or 4 feet high, branched, leafy, smooth, and glaucous. *Leaves* alternate, large, wavy, irregularly lobed, cut, or deeply serrated, and clasping the stem by their broad heart-shaped base. *Flowers* large, drooping while in the bud, but becoming upright as the corolla expands. *Petals* purplish white, with a large violet spot at the base of each. *Germen* nearly globular, rays of the stigma from 8 to 10, or more. *Capsule* nearly globular, sometimes furrowed. *Seeds* very numerous, kidney-shaped, reticulated, oily, sweet, and eatable. The whole plant is glaucous and smooth, except that the flower-stalks sometimes bear a few scattered, spreading, bristly hairs.—Many fine varieties with double flowers, of every shade of purple, scarlet, crimson, and even green, mixed with white, are not uncommon in gardens.

Opium is the milky juice of this species, inspissated by the heat of the sun, and blackened by drying. It is obtained by making incisions in the capsules every evening, and in the morning the sap, which has distilled from the wound, and become thickened, is scraped off, and being afterwards worked by the hand in the sunshine, is formed into cakes of about four pounds weight each. The quantity of this drug used for medical and other purposes is immense: 600,000 pounds are said to be annually exported from the Ganges alone.—Laudanum is a solution of Opium in spirit of wine. A syrup, made with a decoction of the capsules, is kept in the shops, under the name of Diacodion. The seeds are sometimes used to make emulsions, but they have nothing of the narcotic virtues of the other parts of the plant. The Persians and Germans are said still to sprinkle these seeds over their rice and wheaten cakes, a practice of great antiquity. They are sometimes sent to table mixed with honey, and are also much used, by their German name of *Maw-seed*, as a cooling food for singing birds. It is cultivated in Flanders, and also in England, especially about Evesham, and Kettering, not only for the above-named purposes, but also for the sake of the seeds, from which an oil is extracted which is little inferior to olive oil, and often substituted for Florentine. The seeds consist of a simple farinaceous matter united with a bland oil used by Painters.—M. Robiquet has discovered, that the narcotic quality of the Poppy is owing to a crystallizable substance called *morphium*, which possesses some properties in common with *ammonia*. It seems to be a solid and combustible alkali: its action on the animal economy is violent, even in the smallest quantity.

For a more particular account of the medical properties of the Poppy, and the method of cultivating it, for the purpose of obtaining Opium, see the following works.—*Woodville's Medical Botany*, v. iii. p. 503. (1792).—*Miller's Gardener's and Botanist's Dictionary*, by Dr. Martyn, v. ii. pt. 1. Art. Papaver, (1807).—*Thornton's Family Herbal*, p. 534, (1810).—A Paper on the Preparation of Opium in Great Britain, by John Young, Fellow of the Royal College of Surgeons, Edinburgh, published in the Edinburgh Philosophical Journal, vol. i. p. 258, (1819).—*Don's General System of Gardening and Botany*, vol. i. p. 131, (1831).



MECONÓPSIS CÁMBRICA. *WELSH-POPPY.* 4

G. Havell Del. Pub.d by W. Baxter Bot.ni Garden Oxford C. Mathews Sc

MECONO'PSIS*.

Linnean Class and Order. POLYA'NDRIA† MONOGY'NIA.

Natural Order. PAPAVERA'CEÆ. *Juss.*—Lindl. Syn. p. 16; Introd. to Nat. Syst. p. 8.—Rich. by Macgilliv. p. 497.

GEN. CHAR. *Calyx* inferior, of 2 egg-shaped, concave, equal, somewhat bristly, deciduous sepals. *Corolla* of 4 large, roundish, crumpled, spreading petals, the 2 inner ones the smallest. *Filaments* very numerous, hair-like, much shorter than the corolla. *Anthers* terminal, upright, somewhat stalked, oblong, blunt, compressed. *Germen* oblong. *Style* evident, short. *Stigma* of from 4 to 6 radiating, downy, permanent lobes. *Capsule* superior, inversely egg-oblong, coriaceous, of one cell, opening by, from 4 to 6, valves at the top. *Placentæ (Receptacles of the seeds)* narrow, scarcely projecting into the inside of the capsule. *Seeds* very numerous, kidney-shaped, minute, dotted.

This Genus is distinguished from that of *Papaver* by the evident *style*, and narrow, scarcely projecting *placentæ*. It is, as DE CANDOLLE observes, a genus between *Papáver* and *Argemône*.

One species British.

MECONO'PSIS CA'MBRICA. Common Welsh-Poppy.

SPEC. CHAR. Capsules smooth, with from 4 to 6 valves. Leaves stalked, pinnate, cut.

De Candolle's Regni Vegetabilis Systema Naturale, v. ii. p. 87. *fide* Sir J. E. Smith.—Lindl. Syn. p. 17.—Hook. Brit. Fl. p. 256.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 135.—*Papáver Cámbricum*, Linn.—Engl. Bot. t. 66.—Huds. Fl. Angl. (2nd ed.) p. 231.—Sm. Fl. Brit. v. ii. p. 568. Engl. Fl. v. iii. p. 12.—With. (7th ed.) v. iii. p. 650.—Hook. Fl. Scot. p. 168.—Grev. Fl. Edin. p. 120.—Mack. Catal. Pl. of Ireland, p. 51.—Fl. Devon. pp. 90 & 192.—*Papáver cambricum perenne, flore sulphureo*, Dillenius' Hortus Elthamensis, v. ii. p. 300. t. 223. f. 290.—*Papáver luteum perenne, laciniato folio, Cambrobritannicum*, Ray's Syn. p. 309.—*Cerastites cambrica*, Gray's Nat. Arr. v. ii. p. 704.

LOCALITIES.—In moist rocky shady situations. Very rare in ENGLAND.—*Cumberland;* Near Portingseale: Mr. WINCH, in With. Bot. Arr. Near Keswick: Mr. HUTTON, in Bot. Guide.—*Devonshire;* Woods around Lidford Fall, abundant. Woods at Endsleigh and Dunterton: Messrs. JONES and KINGSTON, in Fl Devoniensis. Near Linton: Mr. JACOB, ibid.—*Lancashire;* Near Holker: Mr. WOODWARD, in Bot. Guide. Brathay: Rev. J. DOOD, ibid.—*Somersetshire;* On the rocks at Chedder: Dr. DILLENIUS, in Hortus Elthamensis.—*Westmoreland;* About Kendal, plentifully: Mr. HUDSON, in Fl. Angl.—By the Ferry-house at Winandermere: Mr. WOODWARD, in Bot. Guide. Grasmere: Rev. W. Wooo, ibid. In shady lanes near Kirkby Lonsdale: Sir J. E. Smith, in Fl. Brit.—*Yorkshire;* Mossdale Head in Wensley Dale: Mr. BRUNTON.—WALES. *Carnarvonshire;* Near the bridge at Aber, in the bed of the river: Mr. LHWYD, in Ray's Syn. On the back of Snowdon, going from Carnarvon to Llanberris, not far from the Castle: Mr. RAY, in Syn.—*Denbighshire;* near Pont Meredith: Mr. GRIFFITH.—*Glamorganshire;* About Pont Nedd Vachn, Aberdylais, &c. plentiful: Mr. DILLWYN, in Bot. Guide.—*Montgomeryshire;* On the Breiddin Hills: Mr. AIKIN, in Bot.

Fig. 1. Stamens.—Fig. 2. Germen and Pistil.—Fig. 3. Capsule.—Fig. 4. Transverse Section of the same.—Fig. 5. A Seed, magnified.

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* From *mecon*, Gr. a *Poppy*, and *opsis*, Gr. a *resemblance*. Dr. HOOKER.

† See *Papáver Somniferum*, p. 53.

Guide. Craig Cwn Pistill near Newtown: Dr. Evans, ibid.--SCOTLAND. Banks of the Water of Leith, near Woodhall; Messrs. Sommerville and Maughan, in Hook. Fl. Scotica. Braid Woods and Cliesh Woods: Mr. Arnott, ibid.—IRELAND. Rostrevor-hill, in crevices of rocks by the side of a stream, where it had been previously observed by Mr. John White: Mr. Mackay, in Catal. of Pl. of Ireland. Benbulben, Sligo: E. Murphy, Esq. in Loudon's Mag. of Nat. Hist. v. i. p. 438.

Perennial.—Flowers in June, July, and August.

Root tapering, branched, fibrous, yellowish brown on the outside, nearly white within. *Stem* upright, branched, a foot or more high, leafy, nearly smooth, or clothed, more or less, with scattered projecting hairs. *Root-leaves* with very long petioles (leaf-stalks). *Stem-leaves* with shorter, all pinnate (winged), with nearly egg-shaped, pointed, lobed, and cut, somewhat decurrent, nearly smooth leaflets, the terminating one 3-lobed. *Peduncle* (*flower-stalk*) very long, slightly hairy, bearing one large, fragrant, lemon-coloured flower. *Calyx* hairy. *Capsule* oblong, tapering towards the base. *Seeds* very numerous, minute, kidney-shaped, and beautifully reticulated or dotted.—The whole plant is tender and brittle, of a light, somewhat glaucous green colour, with a white milky juice. The large, handsome, and delicate, lemon-coloured flowers render it not unworthy a place in the Flower Garden, where it will thrive in a moist shady situation, but it will not do in an open exposed place. It has naturalized itself at the bottom of the Oxford Botanic Garden, under a wall facing nearly North East.

The Natural Order Papavera'ceæ, to which the present plant belongs, is composed of dicotyledonous, *herbaceous plants*, or *shrubs*, with a white or yellowish milky juice, alternate, more or less divided *leaves*, and long 1-flowered *peduncles*. The *calyx* consists of 2 deciduous *sepals*. The *corolla* is composed of 4, or a multiple of 4, *petals*, which are hypogynous (inferior), inserted in a cruciate manner, and which are plaited and puckered previous to their expansion. The *stamens* (fig. 1.) are hypogynous (i. e. inserted into the receptacle below the pistil), and are either 8, or a multiple of 4, but more generally they are more numerous, and, in some instances, inserted in 4 parcels, one of which adheres to the base of each petal. The *anthers* are bi-locular (2-celled), and innate. The *ovary* (*germen*) (fig. 2.) is solitary. The *style* short, or wanting, and terminated by as many stigmas (or lobes of the stigma) as there are *placentæ*. The *fruit* is 1-celled, either pod-shaped, with 2 parietal placentæ, (Plate 51, f. 5, 6, & 7,) or capsular, with several placentæ, (Plate 53, f. 3. and Plate 54, f. 3). The *seeds* (f. 5.) are numerous, each with a minute *embryo* in the base of a fleshy *albumen*.—See *Lindley's Synopsis*, and *Richard's Elements*.

British Genera in this Order are, 1. Papa'ver, Plate 53.—2. Mecono'psis, Plate 54.—3. Glaucium.—4. Romeria.—and 5. Chelidonium, Plate 51.





LEUCOJUM ÆSTIVUM *SUMMER SNOWFLAKE.* 1/

W.A. Delamotte Del. Pub.d by W. Baxter Botanic Garden Oxford C. Mathews Sc.

LEUCO'JUM*.

Linnean Class and Order. HEXA'NDRIA†, MONOGY'NIA.

Natural Order. AMARYLLI'DEÆ. *Dr. R. Brown.*—Lind. Syn. p. 264; Introd. to Nat. Syst. p. 259.—NARCI'SSEÆ, Rich. by Macgilliv. p. 407.

GEN. CHAR. *Calyx* none. *Corolla (Periánthium‡)* bell-shaped, superior, of 6 regular, nearly equal, egg-shaped, moderately spreading petals, which are combined at the base, and somewhat thickened, and contracted at the summit; 3 of them external. *Filaments* 6, from the summit of the germen, bristle-like, flattened, short, equal, upright. *Anthers* terminal, oblong, blunt, 4-sided, upright, simple, slightly spreading, opening by 2 terminal pores. *Germen* (figs. 2 & 3) inferior, roundish, abrupt. *Style* round, club-shaped, blunt. *Stigma* bristle-shaped, upright, pointed, longer than the stamens. *Capsule* (figs. 1 & 4) turbinate (top-shaped), blunt, of 3 cells, and 3 valves, each valve with a central partition. *Seeds* (fig. 5) several, globose.

The naked, superior, bell-shaped corolla of 6 equal petals, and simple equal stamens, will distinguish this from other Genera in the same class and order.

One species British.

LEUCO'JUM ÆSTI'VUM. Summer Snowflake. Mountain Snowdrop.

SPEC. CHAR. Spatha (sheath) many-flowered. Style club-shaped.

Eng. Bot. t. 621.—Curt. Fl. Lond. t. .—Jacquin's Floræ Austriacæ, t. 203.—Sm. Fl. Brit. v. i. p. 353. Engl. Fl. v. ii. p. 130.—With. (7th ed.) v. ii. p. 418.—Lindl Syn. p. 265.—Hook. Brit. Fl. p. 151.—Gray's Nat. Arr. v. ii. p. 192.—Purt. Midl. Fl. v. i. p. 174. and v. iii. p. 351.—Walk. Fl. of Oxf. p. 90.—*Leucoium bulbosum majus polyanthemum*, Johnson's Gerarde, p. 148.

LOCALITIES.—In moist meadows, and marshes near rivers. Rare.—*Oxfordshire;* Banks of the Isis between Iffley and Sandford, near Oxford: Rev. W. T. BREE, in Purt. Midl. Fl.; and N. B. YOUNG, Esq. in Walker's Flora of Oxfordshire. In St. John's Island, opposite Kennington, near Oxford: Mr. BARNES. Christ Church: ibid.—*Berkshire;* Near Reading: Mr. MURRAY, in Fl. Brit. Not uncommon on the islands and banks of the Thames near the efflux of the Loddon: Mr. BICHENO. On the banks of the Thames between the Mill and the Pound at Sunning near Reading, plentiful, 1833: Mr. A. R. BURT.—*Buckinghamshire;* In a moist meadow at Upton, also in a peat-field near Dorney: Mr. GOTOBED, in Bot. Guide.—*Kent;* Between Greenwich and Woolwich, about half a mile below the former, close by the Thames side just above high water mark: Mr. CURTIS, in Fl. Lond.—*Middlesex;* In the Isle of Dogs: Mr. CURTIS, ibid.—*Northumberland;* In Rennoldson's Mill Dam, near Heaton: Mr. WINCH, in With. Bot. Arr.—*Suffolk;* A troublesome weed

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Fig. 1. Transverse Section of unripe Capsule, showing the 3 Cells, the 3 central Partitions, and the Seeds.—Fig. 2. Germen, 6 Stamens, and Pistil.—Fig 3. The same, with the Stamens removed.—Fig. 4. Ripe Capsule.—Fig. 5. A Seed: and Fig. 6. The Root and Leaves reduced in size.

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* From *leukos*, Gr. *white*, and *ion*, Gr. a *violet*. But the name *Leukoion* was by the Greeks applied to the *Wall-flower*. Dr. HOOKER.

† See *Galánthus nivális*, p. 33. ‡ See p. 33.

in pastures at Little Stonham: Mrs. Cobbold, in Fl. Brit.—*Surrey;* near Wooking: Mr. Salisbury, in With. Bot. Arr.—*Westmoreland;* In a small Island in the river about three miles south of Kendal, in the Dam of the Gunpowder Mill: Mr. Gough, in Fl. Brit.

Perennial.—Flowers in May and June.

Root a tunicated (coated), somewhat egg-shaped bulb, of a pale brown colour on the outside, white within, with many long simple fibres. *Leaves* numerous, all radical (growing from the root), about 18 inches or 2 feet long, and three quarters of an inch broad, upright, nearly strap-shaped, of a deep green colour, blunt, somewhat concave above, bluntly keeled below, all inclosed, with the *scape (stalk)* in one or more very short membranous, abrupt, entire, radical *stipulas*. *Scape (stalk)* upright, about as long as the leaves, 2-edged, hollow, a little twisted, bearing at the top 4 or more drooping, white, nearly scentless, bell-shaped flowers, each on a long, angular *pedicel (partial flower-stalk)*, all bursting from a solitary, spear-shaped, upright, sheathing *bractea* (*spatha* of Linn.). *Petals* egg-shaped, thickish at the tip, and marked with a green spot. *Anthers* blunt, with 2 little cavities. *Capsule* somewhat inversely egg-shaped. *Seeds* several, large, nearly round, black, and glossy.

It is common in most gardens, and is well adapted for ornamenting the borders of shrubberies.

The plants which compose the *Natural Order* Amaryllide*æ* are all monocotyledonous, (having only one seed-lobe), with bulbous (very seldom fibrous) *roots*, and generally sword-shaped, or strap-shaped *leaves*, with parallel veins. Their flowers are usually accompanied by *spathaceous bracteæ (sheathing floral-leaves)*, and are amongst the most splendid and magnificent in the vegetable kingdom, (witness the exotic Genera *Amaryllis, Nerine, Brunsvigia, Crinum, Pancrátium*, and *Doryánthes)*. The *Perian'thium (calyx* and *corolla* confounded) is superior, regular, and coloured, of 6 pieces (petals of Linnæus), the 3 outer of which overlap the 3 inner. The *stamens*, which are six in number, are inserted upon the pieces of the periánthium; their *filaments* are either free, as in most instances, or they are connected by their dilated bases into a kind of cup, as in the genus *Pancrátium;* sometimes an additional series of barren stamens is present, often forming a cup which surrounds the tube of the periánthium, as in the genus *Narcissus*. The *anthers* burst inwardly. The *ovary (germen)* is 3-celled, the cells many-seeded, or sometimes only 1- or 2-seeded. The *style* is simple, with a 3-lobed *stigma*. The *fruit* is either a 3-celled, 3-valved *capsule*, with a loculicidal dehiscence (the dissepiments, or partitions, situated on the middle of the inner surface of the valves), or a 1- to 3-seeded berry. The *seeds* have either a thin and membranous, or thick and fleshy *testa;* a fleshy *albumen*, and nearly straight *embryo*, the radicle of which is turned towards the *hilum* or *scar*.—The only British Genera in this order are,

Gala'nthus, Plate 33—Leuco'jum, Plate 55.—and Narci'ssus.

The *superior* periánthium will distinguish the plants of this Natural Order from those of the orders *Melanthaceæ, Liliáceæ*, (see p. 1.) *Asphodéleæ*, (see p. 41), and *Smiláceæ;* all of which have an *inferior* periánthium.



PHÁLARIS CANARIÉNSIS. *CULTIVATED CANARY GRASS.* ☉

C. Mathews Del. & Sc.

Publ^d by W. Baxter, Becconsfield Gordon Oxford

PHA'LARIS*.

Linnean Class and Order. TRIA'NDRIA†, MONOGY'NIA.

Natural Order. GRAMI'NEÆ. *Juss.*—Lindl. Syn. p. 293; Introd. to Nat. Syst. p. 292.—Rich. by Macgilliv. p. 393.—Sir J. E. Smith's English Flora, v. i. p. 71.

GEN. CHAR. *Calyx* (fig. 1.) single flowered, of 2, nearly equal, compressed, keeled valves (glumes), whose straight inner margins meet. *Corolla* of 2 equal, cartilaginous, downy, awnless valves, (paleæ), accompanied at the base by 1 or 2 small, spear-shaped pointed valves of other imperfect flowers (fig. 2). *Nectaries*, two equal, egg-shaped, thin scales (squamulæ). *Filaments* 3, hair-like. *Anthers* oblong. *Germen* egg-shaped. *Styles* very short. *Stigmas* long and feathery. *Seed* egg-shaped, closely invested with the hardened corolla, which does not open. *Inflorescence* more or less compound, though often apparently a simple *spike*.

Distinguished from other genera of *Gramineæ* with a panicled inflorescence, by a single-flowered calyx of 2 upright, boat-shaped, awnless valves, and a corolla of 2 awnless, equal paleæ, each with a scale at its base.

Two species British.

PHA'LARIS CANARIE'NSIS. Cultivated Canary-grass.

SPEC. CHAR. Panicle egg-shaped, resembling a spike. Calyx-glumes boat-shaped, entire at the point, accompanied by the single valves of 2 other florets.

Eng. Bot. t. 1310.—Host's Icones et Descriptiones Graminium Austriacorum, v. ii. p. 28. t. 38.—Schreber's Beschreibung der Gräser, t. 10. f. 2.—Knapp's Gramina Britannica, t. 3.—Huds. Fl. Angl. (2nd ed.) p. 23.—Sm. Fl. Brit. v. i. p. 62. Engl. Fl. v. i. p. 74.—With. (7th ed.) v. ii. p. 142.—Lindl. Syn. p. 300. Hook. Brit. Fl. p. 28.—Gray's Nat. Arr. v. ii. p. 140.—Mart. Fl. Rust. t. 17.—Leers' Flora Herbornensis, p. 17. t. 7. f. 3*.—Sinclair's Hortus Gramineus Woburnensis, p. 19. f. 4. and p. 399.—Sibth. Fl. Oxon. p. 33.—Purt. Midl. Fl. v. iii. p. 7.—Hook. Fl. Scot. p. 23.—Grev. Fl. Edin. p. 14.—Johnson's Fl. Berwick, v. i p. 18.—Fl. Devon. pp. 11 & 120.—Walk. Fl. of Oxf. p. 16.—*Phalaris major, semine albo*, DILL. in Ray's Syn. p. 394.—*Phalaris*, Johnson's Gerarde, p. 86.

LOCALITIES.—Naturalized in waste places, by road-sides, and on dunghills.—*Oxfordshire;* Behind the Observatory, Oxford: Dr. SIBTHORP, in Fl. Oxon. Borders of fields behind St. Clement's, and by the side of the Banbury road between Oxford and Summer Town: W. B.—*Devonshire;* Between Exmouth and Lympstone, on the lower road: Rev. J. JERVIS, in Fl. Devon.—*Northumberland;* On the Ballast Hills of Tyne and Wear: Mr. WINCH.—*Warwickshire;* Near Rugby, on the road to Bilton.—*Worcestershire;* New's Wood,

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Fig. 1. The 2-valved Calyx, the valves a little separated to show the Corolla, the 3 Stamens, and 2 Pistils.—Fig. 2. The Calyx removed, showing the Corolla with 2 spear-shaped valves or abortive Florets at its base.—Fig. 3. The Seed.—Fig. 4. The same, showing the Embryo at the base.—Fig. 6. Embryo and its cotyledon separated from the Albumen.—Fig. 5. The Embryo separate.—All, except fig. 3, more or less magnified.

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* From *phalos*, Gr. *shining;* Canary-seed being very glossy. Dr. HOOKER.

† The 3rd class in the *Artificial System of* LINNÆUS, comprehending all those plants which have perfect flowers, with 3 distinct stamens in each.

adjoining to Malvern: Mr. Ballard, in With. Bot. Arr.—*Isle of Anglesea*; Road-side between Tyfry and Pennynydd —SCOTLAND. About the Sand-hills Toll-cross, Glasgow: Mr. Hopkirk, in Hook. Fl. Scot. Sometimes met with about Edinburgh: Dr. Greville, in Fl. Edinensis.

Annual.—Flowers from June to September.

Root fibrous, white. *Culm (stem)* from 1 to 2 feet or more high, upright, round, striated, leafy, swelling a little at the joints, and often branching at the lower part. *Leaves* broad, rough about the edges and nerves; somewhat pubescent, strap-spear-shaped, pointed, with a long tumid *sheath* (*vagina*), and a thin membranous blunt *stipula* (*ligula*). The sheath of the upper leaf is more tumid than that of the lower ones, and envelopes and protects the panicle whilst young. *Panicle* compact, upright, compound, an inch or more long, egg-shaped, resembling a simple spike, beautifully variegated with green and white. *Valves* (*glumes*) of the calyx (fig. 1.) much longer than the corolla, with 2 green ribs on each side, and a deep and sharp keel, which increases towards the summit, when it becomes rather suddenly acuminated. Within the calyx glumes, and opposite to them, are 2 small spear-shaped pointed valves, considered by some Botanists as 2 abortive florets, and by others as 2 external valves of the corolla; these are much smaller than the awnless, equal *paleæ*, or true valves of the *corolla*, which always remain closed, forming a hard shining coat to the *seed* (figs. 3 & 4.), which is egg-shaped, and of a yellowish, or dark brown colour.

Experiments made upon this Grass by Mr. G. Sinclair, author of the *Hortus Gramineus Woburnensis*, prove the herbage to be but little nutritive, and the plant cannot be recommended for cultivation but for the seeds only, which are esteemed the best food for the *Canary* and other small singing birds; and for this purpose it appears to have been cultivated in England for more than 300 years. Mr. Knapp, in his excellent work on the *British Grasses*, published in 1804, informs us that "the tyranny of the bigotted Philip of Spain, and the persecutions of his evil agent the Duke of Alva, expelled from their native country many of the industrious inhabitants of the Low-lands, who flying from their merciless enemy, sought an asylum under the government of these kingdoms, introducing with them the arts of horticulture, and the esculent vegetables at that day unknown in England; and by them was first cultivated *Phalaris canariensis*. The county of Kent ‡ was chosen by the Netherlanders as the most favourable soil for their employment, nor do we know that the *canary-grass* has been attempted to be grown but in that county where first introduced by the Low-land emigrants."

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‡ In the Isle of Thanet, Canary is sown the first dry week in February, on furrows from 10 to 15 inches apart, (the land being previously made fine and light on the surface,) about 4 or 5 gallons per acre, and kept clean by repeated hoeings, when necessary, during the summer. It is generally ripe by the beginning of September. The seed clings remarkably to the husk; and, in order to detach it, the crop must be left a long time on the ground to receive moisture sufficient to destroy the texture of the envelopment, otherwise it would be hardly possible to thrash out the seed. The chaff is a most excellent food for horses.—See *Boys' General View of the Agriculture of the County of Kent.*





MYOSÓTIS PALÚSTRIS. *FORGET-ME-NOT.* 4

C Mathews Del & Sc.

MYOSO'TIS*.

Linnean Class and Order. PENTA'NDRIA†, MONOGY'NIA.

Natural Order. BORAGI'NEÆ. *Juss.*—Lind. Syn. p. 163; Introd. to Nat. Syst. p. 241.—Rich. by Macgilliv. p. 440.—Smith's Gram. of Bot. p. 102. Engl. Fl. v. i. p. 247.—ASPERIFOLIÆ of *Ray*, *Linnæus*, and *Schrader*.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, oblong, upright, deeply divided into 5 pointed, equal segments, permanent. *Corolla* (fig. 2.) of 1 petal, salver-shaped; tube cylindrical, short; limb ascending, or horizontal, in 5, rather deep, blunt, often notched, equal lobes; mouth half closed with 5 small, rounded, notched, convex, approaching, slightly prominent valves. *Filaments* 5, very short, in the throat of the tube. *Anthers* small, oblong, concealed by the valves. *Germens* 4, roundish, inserted into the base of the calyx. *Style* (fig. 3.) thread-shaped, central, upright, the length of the tube. *Stigma* blunt. *Seeds* (fig. 4.) 4, egg-shaped, rather compressed, pointed, smooth, each with a small hollow at its point of insertion.

The salver-shaped Corolla of 5 blunt lobes; the mouth closed with 5 rounded valves; the Seeds perforated at the base, and borne by the Calyx; will distinguish this genus from all others with a monopetalous, inferior Corolla, and 4 apparently naked Seeds, in the same class and order.

Seven species British.

MYOSO'TIS PALU'STRIS. Great Water Scorpion-grass. Marsh Mouse-ear. Forget-me-not.

SPEC. CHAR. Seeds smooth. Calyx with straight close pressed bristles, when in fruit bell-shaped, open, shorter than the divergent pedicels; limb of the corolla flat, longer than the tube, pubescence of the stem spreading, (or wanting). HOOKER.

Eng. Bot. t. 1973.—Sm. Engl. Fl. v. i. p. 249.—With. (7th ed.) v. ii. p. 275.—Lindl. Syn. p. 165.—Hook. Brit Fl. p. 83.—Gray's Nat. Arr. v. ii. p. 347.—Sibth. Fl. Oxon. p. 68.—Abbot's Fl. Bedf. p. 40.—Purt. Midl. Fl. v. i. p. 106.—Relh. Fl. Cantab. (3rd ed.) p. 79.—Hook. Fl. Scot. p. 67.—Grev. Fl. Edin. p. 43.—Rev. G. E. Smith's Pl. of S. Kent, p. 13.—Johnson's Fl. of Berw. v. i. p. 51.—Fl. Devon. pp. 33 & 150.—Walk. Fl. of Oxf. p. 46.—*Myosotis scorpioides palustris*, Johnson's Gerarde, p. 338.—Ray's Syn. p. 229.—Huds. Fl. Angl. (2nd ed.) p. 78.—Sm. Fl. Brit. p. 212.—Curt. Fl. Lond. t. 165.

LOCALITIES.—In rivulets, wet ditches, margins of rivers, &c. Common.

Perennial.—Flowers from June to September.

Root very long, blackish, with tufts of strong fibres. *Stems* from 6 to 12 or 18 inches high, ascending obliquely, nearly round, branching, leafy, either nearly smooth, or clothed with bristly hairs, those on the upper part of the stem close pressed, those on the lower part, and on the young branches spreading. *Leaves* sessile, egg-

Fig. 1. Calyx.—Fig. 2. Corolla cut open to show the 5 Stamens.—Fig. 3. Germen, Style, and Stigma.—Fig. 4. A Seed.—Fig. 5. Lower part of the Stem, showing the projecting hairs.—Fig. 6. A piece of the Root.

* From *mus*, Gr. a *mouse*, and *uos*, *otos*, Gr. a *ear*; from the shape of the leaves. Dr. HOOKER. † See *Anchusa sempervirens*, p. 48. *note* †.

oblong, about an inch and a half, or two inches long, clothed on both sides with small close pressed bristly hairs. *Clusters* many-flowered, forked, frequently with a solitary flower between the forks; each general and partial *stalk*, as well as the *calyx*, are clothed with short, straight, simple, close pressed bristly hairs. *Partial-stalks* at first crowded into a dense revolute *spike*, which unrolls gradually, and after flowering is greatly elongated, the partial-stalks spreading almost horizontally as the *seeds* ripen, forming a loose straight *cluster*, *Calyx* bell-shaped at the base, limb divided about half way down into 5 broad, triangular, rather spreading segments. *Corolla* handsome, tube yellowish, cylindrical, shorter than the limb, which is of a beautiful sky blue, with a small white ray at the base of each segment; the valves of the mouth are yellow. *Style* not quite so long as the tube, *Stigma* capitate. *Seeds* egg-shaped, compressed, blunt, blackish, polished, somewhat bordered.—The flower-buds, just before they open, are of a fine pink, but immediately after the flowers expand they change to blue‡.

The following lines, addressed to the *Forget-me-not*, were written by Mr. J. W. SLATTER§, of Oxford.

Little flower, whose magic name
Kindles up affection's flame,
Free from all the tricks of art,
In the wayside traveller's heart,
Pleas'd thy radiant head I view,
Crown'd with bright cærulean blue;
Fresh as when to beauty born,
Blushing through the dews of morn;
Thee in other days I met,
E'er my eyes, with sorrow wet,
Gaz'd on human guilt and woe,
Beauty then touched all below.
Still the same, I love thee still,
Tenant of the nameless rill,
Like a thought that cannot stay,
Gliding from the world away.
Change since then has mark'd my lot,
Much I've seen, and much forgot;
Still thy pale blue light appearing,
Childhood's earliest haunts endearing;
Though its hours like stars have set,
Thee and these I ne'er forget.

OXFORD, SEPT. 24, 1833.

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‡ This elegant and beautiful plant has, for many centuries, been considered as the emblem of friendship, in almost every country in Europe. The following tale will explain the origin of its name:—"Two lovers, who were on the eve of being united, were loitering on the margin of a lake, on a fine summer evening, when the maiden espied an attractive cluster of the flowers of *Myosotis palustris* growing close to the water on the bank of an island at some distance from the shore. She expressed a wish to possess them, when her knight, in the true spirit of chivalry, plunged into the water, and swimming to the spot, cropped the wished-for plant; but his strength was unable to fulfil the object of his achievement, and feeling that he could not regain the shore, although very near it, he threw the flowers upon the bank, and casting a last affectionate look upon the object his soul held most dear, he cried, '*Forget-me-not!*' and sunk to rise no more."—See *Mill's History of Chivalry*, v. i. p. 315.

§ Mr. SLATTER is the author of "*Rural Pictures*," a small volume of chaste and elegant Poems.



CONVÓLVULUS ARVÉNSIS. *CORN BINDWEED.* 1

C. Mathews, Delt & Sc.

CONVO'LVULUS*.

Linnean Class and Order. PENTA'NDRIA†, MONOGY'NIA.
Natural Order. CONVOLVULA'CEÆ. *Dr. R. Brown.*—Lindl. Syn. p. 167; Introd. to Nat. Syst. Bot. p. 218.—Rich. by Macgilliv. p. 442.—CONVOLVULI. *Juss.*—Sm. Gram. of Bot. p. 103.

GEN. CHAR. *Calyx* (figs. 1 & 2.) inferior, of one sepal, deeply divided into 5 rather deep, egg-shaped, imbricated, approaching, permanent segments. *Corolla* (fig. 4.) of 1 petal, large, bell-shaped, regular, spreading, with 5 prominent plaits, and as many very shallow lobes. *Nectary* a gland under the germen. *Filaments* 5, awl-shaped, attached to the base of the corolla, and about half its length. *Anthers* terminal, upright, arrow-shaped. *Germen* roundish. *Style* (fig. 3.) thread-shaped, as long as the stamens. *Stigmas* 2, spreading, oblong. *Capsule* invested with the calyx, roundish, of 1, 2, or 3 cells, and as many valves. *Seeds* (fig. 5.) large, roundish, 1 or 2 in each cell, attached to the base of the central, unconnected, angular receptacle.

Distinguished from other genera in the same class and order, by an inferior, bell-shaped, plaited Corolla, a Style with 2 Stigmas, and a 2- or 3-celled Capsule, with 1 or 2 seeds in each cell.

Three species British.

CONVO'LVULUS ARVE'NSIS. Small Bindweed, or Corn-bindweed. It is also called Withe-wind, Barebind, Hedge-bells, and Devil's-guts.

SPEC. CHAR. Stem climbing Leaves arrow-shaped, their lobes pointed. Flower-stalks mostly single-flowered. Bracteas very small, distant from the flowers.

Eng. Bot. t. 312.—Curt. Fl. Lond. t. —Huds. Fl. Angl. (2nd ed.) p. 88.—Sm. Fl. Brit. v. i. p. 232. Engl. Fl. v. i. p. 284.—With. (7th ed.) v. ii. p. 298.—Lindl. Syn. p. 167.—Hook. Brit. Fl. p. 96.—Gray's Nat. Arr. v. ii. p. 344.—Lightf. Fl. Scot. v. i. p. 140.—Mart. Fl. Rust. t. 89.—Sibth. Fl. Oxon. p. 76.—Abbot's Fl. Bedf. p. 47.—Purt. Midl. Fl. v. i. p. 116.—Relh. Fl. Cant. (3rd ed.) p. 88.—Hook. Fl. Scot. p. 73.—Grev. Fl. Edin. p. 49.—Johnson's Fl. of Berwick. v. i. p. 57.—Fl. Devon. pp. 65 & 127.—Walk. Fl. of Oxf. p. 55.—Mack. Catal. of Pl. of Ireland, p. 22.—*Convolvulus minor vulgaris*, Ray's Syn. p. 275.—*Smilax lenis minor*, Johnson's Gerarde, p. 861.

LOCALITIES.—In hedges, fields, and gardens: very common in ENGLAND, especially on a sandy or gravelly soil.—SCOTLAND. About Glasgow, but not common: Mr. HOPKIRK, in Hook. Fl. Scot. Near Cathcart: Dr. BROWN, ibid.—Piershill Barracks, and near Lochend: Mr. NEILL, in Fl. Edin. Kirkcaldy, abundant, especially towards the sea-shore: Mr. ARNOTT, ibid. Fields about Leith Links: Mr. BAINBRIDGE, ibid. River-side below Canonmills: Mr. D. STEUART, ibid. Road-side east of Canonmills; and road-sides about Newhaven: Dr. GREVILLE, ibid.—IRELAND. Ditch banks, and cornfields, frequent: Mr. MACKAY, in Catalogue of Plants of Ireland.

Perennial.—Flowers from June to September.

Fig. 1. Calyx.—Fig. 2. The same magnified.—Fig. 3. Germen, Style, and Stigmas.—Fig. 4. Corolla cut open, to show the 5 Stamens.—Fig. 5. A Seed.

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* From *convolvo*, to *entwine*: whence, too, the English name *Bindweed*. Dr. HOOKER.

† See *Anchusa sempervirens*, p. 48. *note* †.

Root creeping, so as scarcely to be eradicated, round, about as thick as a crow-quill, white and milky. *Stems* numerous, from 1 to 3 feet, or more, long, twining from right to left (sinistrorsum), or contrary to the apparent motion of the sun; often prostrate from the absence of any support, branched, leafy, slender, angular, twisted, and slightly downy. *Leaves* alternate, smooth, on channelled foot-stalks, arrow-shaped, or halbert-shaped, with pointed lobes. *Flower-stalks* axillary, as long as the leaves, 1, 2, or 3-flowered, angular, and swelling upwards. *Bractea* small, and distant from the flower, generally about the middle of the peduncle or flower-stalk. *Flowers* about an inch broad, very beautiful, of every shade of pink, with paler or yellowish plaits, and stains of crimson in the lower part, they are frequently quite white. *Anthers* red, or white. *Germen* egg-shaped, surrounded at the base by a yellow glandular *nectary*. *Style* thread-shaped. *Stigmas* strap-shaped, downy. *Capsules* roundish, of 3 or 4 cells. *Seeds* large, angular, brown. The flowers close before rain‡.

This is a handsome plant, but it is a great pest to the Farmer and Gardener, as its roots spread very much, and run deep in the soil, it is with great difficulty destroyed. It is said, that perseverance in hoeing, to prevent the young shoots from expanding their leaves, will in one season exhaust the roots, so that a naked summer fallow, with deep ploughing, and careful forking out, will effectually overcome this evil; but Mr. CURTIS has proved by an experiment, that cutting down the plants, even below the surface, only tends to spread them farther.

No apology, I trust, is necessary for the introduction of the following beautiful lines, addressed to the

CONVOLVULUS ARVENSIS.

" Thy beauty blushing through the dew,
Which summer sheds at early morn;
Fair fading flower I love to view,
Beneath the shade of yellow corn.

From sister beauties of the field,
That blush unseen I turn to thee,
For thou in simple guise can'st yield
What half the world denies to me.

A tender feeling of delight,
Attends me at thy humble shrine,
I trace the eternal hand of might,
In these decaying tints of thine.

The rude untutor'd reaper by,
Without a ray from science caught,
Beholds the same memorials nigh,
And owns sweet truth's by nature taught.

But ah! thy waning beauty tells
(Though silent) of the year's decline,
With these wild dew-besprinkled bells,
Fade all the charms which round me shine."

OXFORD, SEPT. 20, 1833. J. W. SLATTER.

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‡ According to the observations of LINNÆUS, cows, goats, sheep, and horses eat it, swine refuse it.





CYNODON DACTYLON. *CREEPING DOG'S-TOOTH-GRASS.* 1

C. Mathews, Del & Sc

CY'NODON*.

Linnean Class and Order. TRIA'NDRIA †, MONOGY'NIA.

Natural Order. GRAMI'NEÆ. *Juss.*—Lindl. Syn. p. 293; Introd. to Nat. Syst. Bot. p. 292.—Rich. by Macgilliv. p. 393.—Sir J. E. Smith's Gram. of Bot. p. 68. Eng. Fl. v. i. p. 71.—Loud. Hort. Brit. p. 542.

GEN. CHAR. *Spikelets* (fig. 1.) 1-sided, in 2 or more rows, 1-flowered, attached to a flat rachis or receptacle. *Glumes (valves of the calyx)* 2, keeled, nearly equal, spear-shaped, pointed, awnless, containing a single floret. *Paleæ (valves of the corolla)* 2, longer than the glumes, unequal, keeled, compressed, awnless, the outer much the broadest, and clasping the inner. *Nectary* of two minute scales (squamulæ). *Filaments* 3, longer than the paleæ or corolla. *Anthers* cloven at each end. *Germen* egg-shaped. *Styles* distinct. *Stigmas* feathery. *Seed* egg-shaped, coated with the hardened paleæ (corolla).

Distinguished from other *Gramineæ* by the digitate or racemose Spikes; the 1-sided (unilateral) Spikelets; the 1-flowered Calyx of 2, nearly equal, spreading, boat-shaped Glumes; the Corolla of 2, awnless, compressed Paleæ; and the Seed coated with the hardened Corolla.

One species British.

CY'NODON DA'CTYLON. Creeping Dog's-tooth-grass.

SPEC. CHAR. Spikes digitate, 4 or 5, crowded together. Paleæ or Corolla smooth.

Cy'nodon Dáctylon, Brown's Prodromus Floræ Novæ Hollandiæ et Insulæ Van-Diemen. p. 187.—Sm. Eng. Fl. v. i. p. 95.—With. (7th ed.) v. ii. p. 145. t. 21.—Lind. Syn. p. 298.—Hook. Brit Fl. p. 57.—Sincl. Hort. Gram. Woburn. p. 290, with a plate.—*C. Sarmentosum*, Gray's Nat. Arr. v. ii. p. 100.—*Panicum Dáctylon*, Eng. Bot. t. 850.—Knapp's Gram. Brit. t. 13.—Host's Icones et Descriptiones Graminum Austriacorum, v. ii. p. 15. t. 18.—Huds. Fl. Angl. (2nd ed.) p. 25.—Sm. Fl. Brit. v. i. p. 67.—*Digitaria stolonifera*, Schrader's Flora Germanica, v. i. p. 165, *fide* Sir J. E. SMITH.—*Agrostis linearis*, Willd. Sp. Pl. v. i. p. 375. Ascertained by Mr. LAMBERT; see Transactions of the Linnean Society of London, v. vii. p. 309.—*Gramin repens, cum paniculâ graminis manuæ*, Ray's Syn. p. 399.—*Gramen dactiloides, radiæ repente*, Johnson's Gerarde, p. 28.—*Dúrva*, Sir W. JONES. in Asiatic Researches, v. iv. p. 248, with a figure of the Plant, at p. 252.—*Beli Caraga*, Rheede's Hortus Malabaricus, v. xii. p. 87. t. 47.

LOCALITIES.—On the sandy sea-shore between Penzance and Market-jeu, in Cornwall, abundantly, where it was first observed by Mr. NEWTON, in the time of RAY. It has been since found in the same place by Mr. STACKHOUSE.

Perennial.—Flowers in July, August, and September.

Fig. 1. A single Floret, showing the 2 Glumes or Calyx, the 2 Paleæ or Corolla, the 3 Stamens, and 2 feathery Pistils, magnified.—Fig. 2. The 3 Stamens, the Germen, and 2 Pistils, more highly magnified.

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* From *cuon*, a *dog*, and *odous*, a *tooth*.

† See *Phalaris canariensis*, p. 59. *note* †.

Roots creeping, somewhat woody, and rather brittle, smooth, yellowish white, producing strong, branching fibres from the joints. *Stems* cylindrical, leafy, very smooth, matted, creeping to a considerable extent, and, like the roots, throwing out fibres from the joints. *Leaves* tapering, sharp-pointed, hairy, a little glaucous; with long, striated, smooth, sometimes hairy *sheaths*, and a short, hairy *stipula*. *Flowering-branches* upright, from 5 to 8 or 10 inches high, leafy, simple, and terminating in 4 or 5 nearly equal, crowded, upright, finally spreading, many-flowered, thread-shaped *spikes;* the *common stalk* or *rachis* of each triangular, roughish, flat, and slightly bordered on one side. *Spikelets* (*Flowers* of SMITH and WITHERING) nearly sessile, shining and purplish, all growing on one side of the rachis or spike-stalk. *Paleæ* compressed, longer than the *glumes*, and opposite to them; occasionally with the rudiment of a second floret, like a small bristle.

Mr. LAMBERT and Mr. G. SINCLAIR have both very satisfactorily proved the *Cy'nodon Dáctylon* to be the same species as the *Dúrva*, *Dub*, or *Doob-grass* of the Hindoos; but from the experiments of Mr. SINCLAIR, as recorded in his valuable work, the *Hortus Gramineus Woburnensis*, it appears that the produce and nutritive powers of this grass, in Great Britain, are insignificant, compared to the importance attached to them in the East Indies, where it grows luxuriantly, and is highly valued as food for horses, &c. It is much praised by the late Sir W. JONES, in the 4th volume of the *Asiatic Researches*‡, for its great beauty, as well as for its usefulness.—"Its flowers," says this elegant writer, "in their perfect state, are among the loveliest objects in the vegetable world, and appear, through a lens, like minute rubies and emeralds, in constant motion from the least breath of air. It is the sweetest and most nutricious pasture for cattle; and its usefulness, added to its beauty, induced the *Hindus*, in their earliest ages, to believe that it was the mansion of a benevolent nymph. Even the *Véda* celebrates it; as in the following text of the *A' t' harvana:* 'May *Dúrva*, which rose from the water of life, which has a hundred roots and a hundred stems, efface a hundred of my sins, and prolong my existence on earth for a hundred years.'"

‡ Pages 248 & 249.



TRIGLÓCHIN PALÚSTRE. *MARSH ARROW-GRASS.* 2

C. Mathews, Del. & Sc.

TRIGLO'CHIN*.

Linnean Class and Order. HEXA'NDRIA†, TRIGY'NIA.

Natural Order. JUNCAGI'NEÆ. *Richard.*—Lind. Syn. p. 252; Introd. to Nat. Sys. p. 290.—ALISMA'CEÆ, Section JUNCAGI'NEÆ. Rich by Macgilliv. p. 399.

GEN. CHAR. *Calyx* (fig. 1. a.) inferior, of 3 roundish, blunt, concave, deciduous sepals. *Corolla* of 3 egg-shaped, concave, bluntish petals (fig. 1. b.), a little longer than the sepals. *Filaments* 6, very short, 3 opposite to the sepals, 3 to the petals. *Anthers* (fig. 2. a.) large, roundish, 2-lobed, shorter than the petals, their backs turned towards the pistil. *Germen* (fig. 2. b.) superior, large, egg-oblong, with 3 or 6 furrows. *Styles* none. *Stigmas* (fig. 1. c.) 3 or 6, reflexed, feathery. *Fruit* (figs. 3 & 4.) strap-shaped, or egg-oblong, blunt, formed of 3 or 6 1-seeded, indehiscent capsules, united by a longitudinal receptacle, from which they separate at the base. *Seeds* (fig. 5.) solitary, oblong, pointed, triangular.

The Calyx of 3 sepals, Corolla of 3 petals, and Fruit opening at the base, with 3 Valves, will distinguish this genus from others in the same class and order.

Two species British.

TRIGLO'CHIN PA'LUSTRE. Marsh Arrow-grass.

SPEC. CHAR. Fruit 3-celled, nearly linear, tapering at the base.

Eng. Bot. t. 366.—Hook. Fl. Lond. t. 98.—Huds. Fl. Angl. (2nd ed.) p. 152.—Sm. Fl. Brit. v. i. p. 398. Engl. Fl. v. ii. p. 200.—Lindl. Syn. p. 252.—Hook. Brit. Fl. p. 171.—Gray's Nat. Arr. v. ii. p. 219.—Lightf. Fl. Scot. v. i. p. 191.—Sibth. Fl. Oxon. p. 119.—Abbot's Fl. Bedf. p. 83.—Purt. Midl. Fl. v. i. p. 187.—Relh. Fl. Cant. (3rd ed.) p. 151.—Hook. Fl. Scot. p. 114.—Grev. Fl. Edin. p. 84.—Johnson's Fl. of Berwick, v. i. p. 83.—Fl. Devon. pp. 65 & 127.—Walk. Fl. of Oxf. p. 104.—Mack. Catal. of Pl. of Ireland, p. 35.—*Juncajo palustris et vulgaris*, Ray's Syn. p. 435.—*Gramen aquaticum spicatum*, Johnson's Gerarde, p. 13. *not* the figure. *Gramen maritimum spicatum*, Johnson's Gerarde, p. 20. the figure only.

LOCALITIES.—Boggy places, wet meadows, and pastures. Not uncommon.—*Oxfordshire;* Common about Oxford, Cowley Marsh: Dr. SIBTHORP. On the side of the canal going to Woolvercot; on the south side of Shotover-hill; abundant in the meadows near the canal beyond Heyfields-hut; and in the bog under Bullington-green, near Oxford; also in the bogs on the north of Upper Heyford.—*Bedfordshire;* Hassock's Meadow, and Ampthill Bogs: Rev. C. ABBOT.—*Cambridgeshire;* Granchester Meadow, Teversham Moor, &c.: Rev. R. RELHAN.—*Devon;* Marshes about the river Ex near Exmouth, and about Torquay; Rev. J. P. JONES.—*Lancashire;* Bootle near Liverpool: Dr. BOSTOCK.—*Surrey;* In Battersea Marshes, between the Bridge and the Red House: Mr. W. PAMPLIN, jun.—*Warwickshire;* Near Tamworth: Dr. WITHERING. Alcester, in Mr. Bloxam's field at the edge of the water; and above the village of Great Alne, in some boggy ground: Mr. PURTON. Bogs

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Fig. 1. A Flower. a. Calyx. b. Corolla. c. Stigmas.—Fig. 2. The same, with the Sepals and Petals removed. a. The 6 Stamens. b. Pistils.—Fig. 3. Fruit.—Fig. 4. The same magnified.—Fig. 5. A Seed.

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* From *treis*, Gr. *three*, and *glochin*, Gr. a *point;* the fruit opening in three points, like the barbs of an arrow.

† See *Galanthus nivalis*, p. 33. *note* †.

near Coleshill: Rev. W. T. Bree.—*Worcestershire;* Feckenham: Mr. Purton. Boggy places near Malvern Hills: Mr. E. Lees. Finny Rough near Stone: Mr. W. G. Perry.—*Yorkshire;* In Terrington Cor near Castle Howard: Mr. R. Teesdale. Near Rotherham: Mr. L. Langley.—About Berwick-upon-Tweed.—Plentiful in some parts of SCOTLAND.—Frequent in IRELAND.

Perennial.—Flowers in June, July, and August.

Root fibrous. *Leaves* all radical, numerous, from 6 to 12 inches long, upright, fleshy, strap-shaped, semicylindrical, slightly channelled on the upper side, smooth, sheathing and membranous at the base. *Scape (stalk)* solitary, from 6 to 12 inches high, simple, naked, round, or slightly angular, and terminating in a loose, upright *spike* or *cluster* of small, greenish *flowers*, on short upright *peduncles*, without *bracteas*. *Anthers* nearly sessile, 3 within the sepals, and 3 within the petals. *Fruit* 3-celled, formed of 3 strap-shaped, 1-seeded, indehiscent *capsules* united by a common *receptacle*, each capsule separating at its base, and suspended by its extremity, in this state giving the fruit a strong resemblance to a 3-barbed Arrow-head.—"Mr. W. Wilson finds that the leaves, when bruised, yield a very fetid smell, and that the root, under certain circumstances at least, is a creeping one; sending out jointed, scaly runners, with comparatively large, egg-shaped, shortly acuminated *bulbs* at the extremity. These bulbs at the end of the jointed runners have very much the appearance of a scorpion's tail." Dr. Hooker.—Plants confined in a small compartment of the aquarium in the Oxford Botanic Garden, produced these bulbs in abundance: (see the plate).—Linnæus remarks, that goats, sheep, horses, and swine eat this plant, and that cows are extremely fond of it.

The few plants which compose the *Natural Order* Juncagi'neæ, are monocotyledonous and herbaceous, and grow in bogs or moist places. Their leaves are sword-shaped, with parallel veins, their flowers inconspicuous, and produced in naked spikes, or clusters. Their *sepals* and *petals* are herbaceous, rarely wanting. Their *stamens* are 6 in number. Their *ovaries* superior, either 3 or 6, adhering firmly to each other. Their *ovules* are solitary, or 2 approaching at their base, upright. Their *pericarpiums* (see *Lindl. Introd. to Bot.* p. 162) are dry and indehiscent, each containing 1 or 2 *seeds*, which are upright, and without *albumen*, their *embryo* having the same direction as the seed, with a lateral *cleft* for the emission of the *plumula*. See *Lindl. Syn*, p. 252.



CAMPÁNULA ROTUNDIFÓLIA. *ROUND-LEAVED BELL-FLOWER.*

W. A Delamotte. Del. C. Mathews. Sc.

Pub.d by W Baxter Botan.. Garden Oxford

CAMPA'NULA *.

Linnean Class and Order. PENTA'NDRIA †, MONOGY'NIA.

Natural Order. CAMPANULA'CEÆ, Juss. Gen. Plant. p. 163.—Lindl. Syn. p. 135; Introd. to Nat. Syst. of Bot. p. 185.—Rich. by Macgilliv. p. 453.

GEN. CHAR. *Calyx* (fig. 3.) superior, of one sepal (monosepalous), deeply divided into 5 pointed, upright, sometimes rather spreading segments; in some with intermediate, reflexed, tumid lobes; permanent. *Corolla* of 1 petal (monopetalous), bell-shaped, with 5 broad, spreading, regular lobes, withering; impervious at the base, combined with the calyx, and furnished at the lower part with 5 acute, approaching valves (fig. 2.) (nectaries of *Linnæus*), which cover the top of the germen. *Filaments* 5, hair-like, very short, from the point of each valve. *Anthers* longer than their filaments, strap-shaped, compressed, spreading. *Germen* inferior, angular. *Style* thread-shaped, downy, longer than the stamens. *Stigma* of from 3 to 5 revolute segments or lobes. *Capsule* roundish, or inversely egg-shaped, angular and ribbed, of 3 or 5 cells, rarely of 2 only, bursting by 3 or 5 torn lateral openings, between the ribs. *Seeds* numerous, small, attached to a columnar *receptacle* or *placenta*.

The bell-shaped *corolla;* from 2 to 5 lobed, revolute *stigma;* and the roundish or inversely egg-shaped *capsule* of from 2 to 5 cells, with torn fissures at the base, will distinguish this from other genera with a monopetalous superior corolla in the same class and order.

Nine species British.

CAMPA'NULA ROTUNDIFO'LIA. Round-leaved Bell-flower. Blue-bell. Heath-bell. Witch's Thimble. HAREBELL.

SPEC. CHAR. Root-leaves heart or kidney-shaped, crenate, very soon withering. Stem-leaves strap-shaped, entire.

Engl. Bot. t. 866.—Curt. Fl. Lond. t. 226.—Johnson's Gerarde, p. 452.—Ray's Syn. p. 277, excluding the reference to J. Bauhin.—Huds. Fl. Angl. (2nd ed.) p. 95.—Sm. Fl. Brit. v. i. p. 235. Engl. Fl. v. i. p. 287.—With. (7th ed.) v. ii. p. 301.—Lindl. Syn. p. 136.—Hook. Brit. Fl. p. 100.—Lightf. Fl. Scot. v. i. p. 141.—Sibth. Fl. Oxon. p. 80.—Abbot's Fl. Bedf. p. 48.—Purt. Midl. Fl. v. i. p. 118.—Relh. Fl. Cantab. (3rd ed.) p. 89.—Hook. Fl. Scot. p. 74.—Grev. Fl. Edin. p. 50.—Fl. Devon. pp. 37 & 154.—Johnson's Fl. of Berwick, v. i. p. 58.—Walk. Fl. of Oxf. p. 56.—*Campánula heterophylla*, Gray's Nat. Arr. v. ii. p. 408.

LOCALITIES.—On heaths, walls, road-sides, hedge-banks, and barren pastures; mostly on a dry soil. Common.

Perennial.—Flowers from June to September.

Root white, thickish, creeping, fibrous, sweetish. *Stems* several, from 6 inches to a foot or more high, upright, slender, round, smooth,

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Fig. 1. Five Stamens, and Pistil.—Fig. 2. A Stamen.—Fig. 3. Calyx and Pistil.—Fig. 4. Capsule.—Fig. 5. Transverse Section of ditto.—Fig. 6. The Pores or Openings at the base of the Capsule.—Fig. 7. Root-leaves.—Fig. 8. Lower part of the Stem.

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* From *Campana*, Lat. *a little bell;* from the shape of the corolla.

† See *Anchusa sempervirens*, p. 48. *note* †.

or sometimes a little downy, especially the lower part, solid, milky, very slightly, if at all branched. *Root-leaves* (fig. 7.) numerous, heart or kidney-shaped, bluntly toothed, or notched; on long, narrow, strap-shaped foot-stalks. *Stem-leaves* (fig. 8.), lower ones spear-shaped, and slightly toothed; upper ones long, strap-shaped, pointed, entire, and very narrow, tapering at the base into short *foot-stalks*. *Flowers* in a loose drooping panicle; blue, sometimes white, on long, slender, tremulous stalks, with an awl-shaped *bractea (floral-leaf)* to each. Segments of the *Calyx* (fig. 3.) strap-awl-shaped, entire, spreading. *Corolla* thrice as long as the calyx, twisted in decay. *Capsule* (figs. 4 & 5.) 3-celled.—It is observed by Dr. HOOKER that the root-leaves soon wither, and thus this part of the specific character is often wanting ‡.

A very dwarf variety of this species is sometimes met with on mountainous rocks and in barren ground; it was observed in Scotland by Mr. LIGHTFOOT, previous to 1777, on the hill of Moncrief, near Perth, only about 2 inches high, and bearing but one flower. This was originally taken for *Campanula uniflora* of LINNÆUS, a very different plant, by Mr. HUDSON.—Mr. W. G. PERRY has found the same variety in a stone-quarry in the Pigwells, at Warwick.

Campánula púmila, of Curtis's Botanical Magazine, t. 512, both the blue and the white flowered kinds of which are now common in our Gardens, was considered by LINNÆUS as a variety of *C. rotundifólia;* this, however, has never been seen wild in Britain, and is doubtless a very distinct species, characterized, as Sir J. E. SMITH observes, by the numerous serrated, inversely egg-shaped or spear-shaped stem-leaves, to say nothing of its smaller size, and brighter green hue. It is *Campánula pusílla* of JACQUIN'S Collectanea, v. ii. p. 79; and *C. cæspitósa* of VILLARS §, and of SCOPOLI ‖.

It appears to have been the opinion of Dr. WITHERING, and many other Botanists, that *Scilla nutans* was the *Blue-bell* of Scotland; but Dr. JOHNSON, the author of an excellent and interesting "Flora of Berwick-upon-Tweed," has proved, I think beyond a doubt, that *Campánula rotundifólia* is the true *Blue-bell* of that country. "I have," says this distinguished Botanist, "spent nearly the whole of the days of my life in the extreme north of England, and in the south of Scotland, and until science had made known to me another and a less interesting nomenclature, I knew the *Campánula* only as the *Blue-bell* of my native land; and a subsequent enquiry has satisfied me that I am correct. These heart-stirring and endearing names, I regret to add, are fast lapsing to oblivion, and, unless the local florist will commemorate them in his pages, our children will read our pastoral poets without knowledge of the objects described." *Loudon's Mag. of Nat. Hist.* v. iii. p. 461.

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‡ LINNÆUS informs us that cows, goats, sheep, and horses eat this plant, but that swine refuse it, and that a green pigment is obtained from the flowers.

Uredo Campanulæ of PERSOON'S Synopsis Fungorum, p. 217, and GREVILLE'S Flora Edinensis, p. 440, is not uncommon on the inferior surface of the leaves of this and other species of Campanula about Oxford, in Summer and Autumn. It is a small parasitical fungus of a bright yellow colour when in a recent state, but soon after drying it becomes nearly white.

§ Histoire des Plantes de Dauphiné, vol. ii. p. 500.

‖ Flora Carniolica, 2nd ed. v. i. p. 143.



ERÝSIMUM CHEIRANTHOÍDES. *TREACLE-MUSTARD.* ♃

I. Russell Del. *C. Mathews Sc*

Pub.d by W. Baxter Botanic Garden Oxford

ERY'SIMUM*.

Linnean Class and Order. TETRADYNA'MIA†, SILIQUO'SA‡.

Natural Order. CRUCI'FERÆ §. Juss. Gen. Plant. p. 237.—Rich. by Macgilliv. p. 498.—Sm. Gram. of Bot. p. 138.—CRUCI'FERÆ, Suborder NOTORHI'ZEÆ ||, Tribe SISYMBRIEÆ. Lindl. Syn. pp. 20 and 29; Introd. to Nat. Syst. pp. 14 to 18; Loudon's Hortus Britannicus, p. 498. and Mag. of Nat. Hist. v. i. pp. 143 and 240.

GEN. CHAR. *Calyx* (fig. 1.) nearly equal at the base. *Sepals* (*leaves*) 4, oblong, concave, upright, slightly coloured, deciduous. *Petals* (fig. 2.) 4, inversely egg-shaped-oblong, blunt, flat, their claws upright, the length of the calyx. *Filaments* (fig. 3.) 6, thread-shaped, simple, distinct, upright, with a gland between the shorter one at each side, sometimes also between the 2 longer ones, and the pistil. *Anthers* roundish-oblong, rather spreading. *Germen* (fig. 4.) oblong, 4-sided (quadrangular). *Style* very short. *Stigma* small, knobbed (capitate), notched, permanent. *Pod* (*siliqua*) (figs. 5 and 8.) sessile, strap-shaped, equally 4-sided (quadrangular); Valves concave, keeled, right-angled (rectangular); Partition (fig. 6.) membranous, crowned with the *style*, and the more or less deeply 2-lobed *stigma*. *Seeds* egg-shaped, without a border, disposed in a single row. *Cotyledons* flat, incumbent (fig. 7.)

The distinctly 4-sided pod, capitate, notched stigma, and flat incumbent cotyledons, will distinguish this genus from all others in the same class and order.

Three species British.

ERY'SIMUM CHEIRANTHOI'DES. Worm-seed Treacle-mustard.

SPEC. CHAR. Leaves spear-shaped, slightly toothed, roughish with starry, 3-parted bristles. Pods nearly upright, on spreading stalks. Stigma small, almost sessile.

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. Stamens and Pistil.—Fig. 4. Germen, Style, and Stigma.—Fig. 5. Pod, or Siliqua.—Fig. 6. The same with the 2 Valves separating from the base, showing the partition and seeds.—Fig. 7. A Seed with the testa or skin taken off to show the two Cotylédons, with the radicle lying on the back of one of them (cotylédons incumbent).—Fig. 8. A transverse Section of the Pod.—All, except figures 5 & 6, more or less magnified.

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* From *eruo*, Gr. to *draw*, to *cure*; on account of its supposed salutary effects in Medicine. It is even now reckoned a powerful cure for the sore throat; it is also said to draw and produce blisters. Mr. D. DON.

† See DRABA VERNA, p. 38, *note* †.

‡ From *siliqua*, a *pod*, the second order of the LINNEAN class *Tetradynamia*, containing those plants of that class which have a much elongated, strap-shaped, or cylindrical *pod*, with numerous *seeds*. Sir J. E. SMITH observes, that the plants of the first order (Siliculósa) are of more humble stature, though most inclined to be shrubby, while those of the second order (Siliquósa) are larger, more upright, and generally herbaceous.

§ See DRABA VERNA, p. 38.

|| From *notos*, Gr. the *back*, and *rhiza*, Gr. a *root*; from the position of the embryo-rootlet (Radícula), which in the plants of this suborder of the *Cruciferæ* is folded on the back of one of the seed-lobes (Cotylédons) thus, O11. When this is the case the Cotylédons are said to be incumbent.

Engl. Bot. t. 942.—Jacq. Fl. Austr. t. 23.—Huds. Fl. Angl. (2nd ed.) p. 287.—Sm. Fl. Brit. v. ii. p. 708.—Engl. Fl. v. iii. p. 200.—With. (7th ed.) v. iii. p. 775.—Lindl. Syn. p. 30.—Hook. Brit. Fl. p. 306.—Gray's Nat. Arr. v. ii. p. 680.—Don's Gen. Syst of Gard. and Bot. v. i. p. 211.—Lightf. Fl. Scot. v. p. 357.—Sib. Fl. Oxon. p. 202.—Purt. Midl. Fl. v. iii. p. 56.—Relh. Fl. Cant (3rd ed.) p. 269.—Hook. Fl. Scot. p. 202.—Walk. Fl. of Oxf. p. 191.—*Myagro affinis planta, siliquis longis*, Ray's Syn. p. 298.—*Camelina*, Johnson's Gerarde, p. 273.

Localities.—Corn-fields, gardens, osier-holts, hedges, and waste places. Not uncommon.—*Oxfordshire;* Osier-holts, near Godstow; Southleigh, in the fields adjoining Tar Wood: Dr. Sibthorp. Near Godstow Nunnery: W. B. —*Berkshire;* Corn-fields and road-sides about Clewer and Eton: Dr. Mavor. Bagley Wood: Mr. Druit.—*Bucks;* Near Eton and Datchet: Mr. Gotobed, in Bot. Guide.—*Cambridgeshire;* Hinton; Fulbourn; in the osier-holts near Ely; and on the Bank of the River between the Bridge and the Town; Prickwillow, near the Bridge; Chatteress; and Gamlingay Park: Relhan, in Fl. Cantab.—*Cheshire;* Near Stockport: Mr. G. Holme, in Bot. Guide.—*Derbyshire;* Near Ashbourne: Ray, and Dr. Martyn.—*Durham;* Sunderland Ballast Hills: Mr. Winch.—*Norfolk;* Not rare: Mr. Crow. Road-side at Poringland; near New Buckenham Castle, and between Ditchingham and Bungay: Mr. E. Forster, jun. About Barton Bendish, and Diss, common: Mr. D. Turner. Harleston: Mr. J. Turner, in Bot. Guide.—*Suffolk;* Corn-fields about Elden: Mr. Newton, in Ray's Synopsis. Turnip-field near Bungay: Mr. Woodward. Near Ipswich, by the road leading to Norwich: Sir J. E. Smith, in Fl. Brit. About Bury: Sir T. G. Cullum.—Not unfrequent about Yoxford: Mr. Davy. Osier Grounds at Beccles, and Glemham: Rev. G. Crabb. Common about Halesworth: Mr. D. Turner, in Bot. Guide.—*Surrey;* Near Weybridge: Dr. Martyn. By the Mole at Brockham: Mr. Winch. Abundant about Battersea: Mr. W. Pamplin, jun. *Sussex;* About Slinfold Parsonage: Mr. Borrer.—WALES. *Denbighshire;* Near Tan y Llan in the parish of Llanyfydd, about five miles N. W. of Denbigh: Mr. Griffith. By the road-side between Talycafn and Bettws: Rev. H. Davies.—SCOTLAND. Corn-fields, but not common: Sibbald. At the head of Loch na Gaul, in Mull: Dr. Walker, in Hook. Fl. Scot.—IRELAND. *County of Cork;* In gravelly fields near Sunday's Well: Mr. Drummond, in Mack. Catal. of Pl. of Ireland.

Annual.—Flowers from June to October.

Root small, tapering. *Stem* upright, simple, or branched, angular, leafy, from a foot to two feet and a half or three feet high, rough with small, mostly forked, bristles. *Leaves* scattered, spear-shaped, slightly toothed, of a dark green colour, sessile, except a few of the lower ones, all clothed with small, close, starry 3-parted bristles. *Flowers* numerous, small, yellow. *Calyx* (fig. 1.) whitish. *Sepals* blunt, somewhat keeled, and concave at the summit. *Petals* slightly notched at the tip. *Pods* (fig. 5.) an inch long, 4-sided, upright, on spreading, nearly horizontal stalks. *Valves* (fig. 6.) minutely downy on the inside. *Seeds* small, somewhat egg-shaped, beaked, of a yellowish brown colour, very bitter.

According to the observations of Linnæus, cows, horses, goats, sheep, and swine will eat this plant. Country people give the seeds to destroy intestinal worms, and with good effect. It is one of the ingredients of the nauseous Venice Treacle; hence its name of *Treacle-Wormseed.*



SPIRÁNTHES AUTUMNÁLIS. *LADIES' TRACES.* 4

C. Matthews. Del. & Sc.

Pub.d by W. Baxter Botanic Gar. Jan. Oxford

SPIRA'NTHES*.

Linnean Class and Order. GYNA'NDRIA†, MONA'NDRIA.

Natural Order. ORCHI'DEÆ. Juss. Gen. Plant. p. 64.—ORCHI'DEÆ, Tribe NEOTTIE'Æ. Lindl. Syn. pp. 256 & 257; Introd. to Nat. Syst. p. 262.—Rich. by Macgilliv. p. 412.—Sm. Gram. of Bot. p. 81; Eng. Fl. v. iv. p. 3.—Hook. Fl. Scot. pt. II. p. 187.

GEN. CHAR. *Perianthium (calyx and corolla‡)* (fig. 2.) superior. *Sepals* 3 (fig. 3. b. b. b.), concave, egg-shaped, or spear-shaped, approaching, permanent, coloured, equal in length; the 2 lateral ones meeting under the nectary. *Petals* 2, (fig. 3. c. c.), oblong, upright, approaching under the upper sepal, and about the same length. *Lip (nectary* of LINN.*)* (fig. 3. d.) as long as the sepals, shovel-shaped, clawed, (unquiculate,) with 2 fleshy projections at the base, entire. *Anther* (fig. 4. b.) roundish, parallel to the stigma, of 2 cells close together, depositing the obovate (inversely egg-shaped) masses of pollen (fig. 4. c.) upon the stigma. *Germen* (fig. 2.) inferior, inversely egg-shaped, with 3 furrows. *Style* or *Column* (fig. 5. a.) taper, club-shaped, distinct, with 2 teeth at the apex (fig. 4. d). *Stigma* prominent in front, globose, beaked. *Capsule* (fig. 6.) inversely egg-shaped, blunt, with 3 furrows, and 3 blunt angles. *Seeds* very minute.

The converging *sepals* and *petals;* shovel-shaped, clawed, entire *lip*, with 2 fleshy projections at the base; *anther* parallel with the stigma; the taper, club-shaped *column*, with 2 teeth at the apex; and the projecting beaked *stigma*, will distinguish this from other genera in the same class and order.

Two species British.

SPIRA'NTHES AUTUMNA'LIS. Ladies' Traces, or Ladies' Tresses.

SPEC. CHAR. Root-leaves oblong, somewhat stalked. Spike twisted, unilateral. Bracteas downy, tumid. Lip egg-shaped, entire.

Spirânthes autumnâlis, Richard, Mem. Mus. v. iv. p. 59. *fide* Gray.—Gray's Nat. Arr. v. ii. p. 208.—Lindl. Syn. p. 257.—*Neóttia spirâlis,* Sm. Eng. Fl. v. iv. p. 35.—Hook. Brit. Fl. p. 376.—Perry's Pl. Varvicenses Selectæ, p. 73.—Rev. G. E. Smith's Pl. of S. Kent, p. 58.—Fl. Devon. pp. 144 and 132.—Walk. Fl. of Oxf. p. 257.—*Orphrys spirâlis,* Linn.—Engl. Bot. t. 541.—Curt. Fl. Lond. t. 270.—Huds. Fl. Angl. (2nd ed.) p. 389.—Sm. Fl. Brit. v. iii. p. 934.—With. (7th ed.) v. ii. p. 37.—Sibth. Fl. Oxon. p. 12.—Abbot's Fl. Bedf. p. 194.—Purt. Midl. Fl. v. i. p. 425. v. iii. p. 387.—Relh. Fl. Cantab. (3rd ed.) p. 363.—*Orchis spiralis alba odorata,* Ray's Syn. p. 378.—*Triorchis,* Johnson's Gerarde, p. 218.

LOCALITIES.—In meadows and pastures on a chalky or gravelly soil; also in wet boggy places. Not uncommon in ENGLAND.—*Oxfordshire;* On a dry

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Fig. 1. A Bractea or Floral leaf.—Fig. 2. Germen and Perianthium.—Fig. 3. The same spread open: a. the Germen; b. b. b. the Sepals; c. c. the Petals; d. the Lip.—Fig. 4. Sepals, Petals, and Lip removed: a. Germen; b. Anther; c. Pollen-masses; d. Pointed summit of the Stigma.—Fig. 5. a. Style; b. Stigma.—Fig. 6. Capsule.—All, except fig. 6, more or less magnified.

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* From *spiera*, Gr. a *screw*, or any thing spirally twisted; on account of the disposition of the flowers on their spike. Delicate little herbaceous plants with fibrous (or tuberous) roots, and generally white flowers, *S. æstivalis* (*autumnalis* of Lind. Syn.) has the germs on the flower-stalks placed regularly one above another, somewhat resembling tresses of plaited hair; whence its name of Ladies' Traces or Tresses. Prof. LINDLEY, in *Loud. Ency. of Plants*, p. 755.

† See *Orphrys apifera*, p. 8. *note* †.

‡ See *Galanthus nivalis*, p. 33. *note* ‡.

bank on the left hand side of the road going up Shotover Hill from Cheyney Lane; also in a wet place on the south side of the hill, near a spring opposite the foot path to Bullington Green: Mr. J. Benwell, and Mr. J. Hinton, 1810. In the same places, 1833, W. B.—*Berks;* In Hampstead park: Mr. Bicheno.—*Bedfordshire;* Hilly pastures near Thurleigh: Rev. C. Abbot.—*Bucks;* On the Fern in Little Marlow: Dr. Martyn.—Plentiful in and about the Plantations at Dropmore: Mr. E. Jenner, Sept. 1833.—*Cambridgeshire;* Hill of Health; Coldham Common; in a field on the left hand side of the road leading from the Histon to the Ely road; on the side of Teversham Moor; Newmarket Heath; Moor near Snailwell: Rev. R. Relhan.—*Cornwall;* In a croft near Whitehall, on the road from Truro to Redruth: Mr. Watt, in With. Bot. Arr. Near Penzance: Rev. W. T. Bree, in Mag. Nat. Hist. v. iv. p. 161.—*Devon;* On the Ness, Teignmouth: Dr. Withering.—*Dorsetshire;* Under the rocks at Pinney Cliffs, near Lyme: Mr. Knappe, in With. Bot. Arr.—*Essex;* On Danbury Common: J. G. in Mag. Nat. Hist. v. iv. p. 447.—*Hampshire;* In the Long Lith, and towards the south corner of the Common, Selborne: Rev. G. White.—*Kent;* About Dartford: Dr. Martyn. On Dartford Heath, plentiful: Mr. W. Pamplin, jun. Upon turfy ground above the shore between Sandgate and Folkstone; and at the foot of the Chalk Downs above Newington, upon Folkstone-Hill, &c. abundant: Rev. G. E. Smith.—*Lancashire;* Allerton, and in the woods at Ince near Liverpool: Dr. Bostock.—*Leicestershire;* Closes near Buddon Wood.—*Middlesex;* On Hanwell Heath near Isleworth, and on Enfield Chase: Dr. Martyn.—*Northamptonshire;* Warckton: ib.—*Nottinghamshire;* Near East Leke: ibid.—*Somersetshire;* On the slope of the Down ascending to Walton Castle, on the Clevedon side: Mr. F. Russell. Lawns about Wick House, near Bristol: Dr. Withering.—*Staffordshire;* Meadows at King's Swinford: Rev. W. T. Bree.—*Surrey;* Barn Elms: Dr. Martyn. Reygate Hill: Mr. Winch.—*Warwickshire;* In a field close to the brick-kiln in the road from Bedford to Binton, and at Snitterfield near to the Lodge Farm: Mr. Purton.—In a field crossed by the foot-road from Warwick to Hampton-on-the-hill: Mr. W. G. Perry.—*Worcestershire;* On the wet commons, Malvern Hills: Mr. E. Lees, in Mag. Nat. Hist. v. iii. p. 161.—*Yorkshire;* Near Rotherham: Mr. L. Langley, ibid. v. ii. p. 270. Near Doncaster, on each side of the river Don: Mr. S. Appleby, ibid. v. v. p. 557.—WALES. *Denbighshire;* Pastures about Voylas: Mr. Griffith. *Anglesea;* Rev. H. Davies.—IRELAND. Near Cork: Rev. W. Hincks. On Bray Common: Mr. J. T. Mackay.

Perennial.—Flowers from August to October.

Root composed of 2 or 3, sometimes more, oblong, cylindrical, nearly perpendicular, brown, downy *tubers* or *knobs*, with a few small fibres. *Root-leaves* several, tufted, egg-spear-shaped, entire, smooth, bright green, spreading, on broad leafy foot-stalks. *Stem* from 4 to 8 inches high, smooth below, downy above, clothed with a few spear-shaped, pointed, sheathing leaves. *Spike* from 2 to 4 inches long, singularly spiral, of many, crowded, small, white, sweet-scented *flowers*, in a single row, each with an egg-shaped, tumid, pointed, downy, close *bractea* (fig. 1.). The upper sepal and the 2 petals are so combined, as to appear like one piece (see fig. 2.). *Lip* (fig. 2. d.) a little longer than the rest of the flower, oblong, broader and slightly crenate at the apex. *Anther* and *Stigma* both sharp pointed. *Capsule* oblique, inversely egg-shaped, with 3 prominent ribs.

" According to Mr. Salisbury, no plant whatever is more easy to cultivate than this; at Chapel-Allerton it propagated itself everywhere, springing up from seeds in the neighbouring pots, whatever soil or plants happened to be in them; and they were once found germinating on a dead root of a Persian Cyclamen, in a pot, which for want of draining was full of Jungermannias." Professor Lindley, *in Loudon's Encyclopædia of Plants*, p. 755.



HOLCUS LANATUS. *MEADOW SOFT-GRASS.* 2

C. Mathews Del. & Sc. Pub.d by W. Baxter Botanic Garden Oxford

HO'LCUS*.

Linnean Class and Order. TRIA'NDRIA †, DIGY'NIA.

Natural Order. GRAMI'NEÆ. Juss. Gen. Pl. p. 28.—Lindl. Syn. p. 293; Introd. to Nat. Syst. p. 292.—Rich. by Macgilliv. p. 393.—Sm. Gram. of Bot. p. 68.; Engl. Fl. v. i. p. 71.—Loud. Hort. Brit. p. 542.

GEN. CHAR. *Panicle* loose. *Calyx* of 2 nearly equal, keeled, ribless, awnless glumes (valves), containing a *spikelet* of 2 *florets* (fig. 1.) the upper with stamens only, and awned; the lower perfect and awnless, *Corolla* of 2 unequal Paleæ (valves). *Nectary* a cloven, smooth, membranous scale (fig. 3). *Filaments* 3 in each floret, hair-like, very delicate. *Anthers* oblong, notched at each end. *Germen* egg-shaped. *Styles* short, widely spreading. *Stigmas* large, feathery. *Seeds* covered by the hardened permanent corolla.

The *calyx* of 2 nearly equal, keeled *glumes*, containing 2 florets; the upper floret with stamens only, and awned, the lower perfect and awnless; and the *seed* coated with the hardened corolla; will distinguish this from other Genera of Gramineæ with a panicled inflorescence.

Two species British.

HO'LCUS LANA'TUS. Meadow Soft-grass. Yorkshire Whites. Yorkshire Fog.

SPEC. CHAR. Calyx-glumes rather blunt, with a sharp point. Imperfect floret with a curved awn included within the calyx. No tuft of hairs at the joints of the culm. Root fibrous.

Eng. Bot. t. 1169.—Curt. Fl. Lond. t. 228.—Knappe's Gram. Brit. t. 37.—Host's Gram. Austr. v. i. p. 2. t. 2.—Schreber's Beschreibung der Gräser, t. 20. f. 1.—Linn. Sp. Pl. 1485.—Huds. Fl. Angl. p. 440.—Sm. Fl. Brit. v. i. p. p. 89. Eng. Fl. v. i. p. 107.—With. (7th ed.) v. ii. p. 158.—Lindl. Syn. p. 305.—Hook. Brit. Fl. p. 38.—Gray's Nat. Arr. v. ii. p. 135.—Lightf. Fl. Scot. v. ii. p. 631.—Leers' Fl. Herb. (2nd ed.) p. 221. t. 7. f. 6.—Mart. Fl. Rust. t. 118.—Sibth. Fl. Oxon. p. 40.—Abbot's Fl. Bedf. p. 218.—Purt. Midl. Fl. v. ii. p. 492.—Relh. Fl. Cantab, (3rd ed.) p. 33.—Graves' British Grasses, t. 46.—Sincl. Hort. Gram. Woborn. p. 21. f. 10.; and p. 163, with a plate.—Fl. Devon. pp. 14 and 122.—Johnson's Fl. of Berw. v. i. p. 21.—Walk. Fl. of Oxf. p. 21.—Baxter's Library of Agricultural and Horticultural Knowledge, (2nd ed.) p. 306 ‡.—*Gramin miliaceum pratense molle*, Ray's Syn. p. 404.

LOCALITIES.—In meadows and pastures. Common.

Fig. 1. A Spikelet, showing the 2 Calyx-glumes, containing within them the 2 florets, each with 3 stamens.—Fig. 2. The Germen, 2 Styles, and feathery Stigmas of the lower or perfect floret.—Fig. 3. The 2 Paleæ of the Corolla, and the cloven membranous Nectary. All magnified.

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* From *elko*, Gr. *to extract*, because it was supposed to have the property of drawing out thorns from the flesh. Dr. HOOKER.

† See *Phálaris canariénsis*, p. 56. *note* †.

‡ "The Library of Agricultural and Horticultural Knowledge," &c. 2nd edition, royal 8vo. 1832; Printed and Published by Mr. J. BAXTER, of Lewes, Sussex. This volume contains a vast quantity of very useful and valuable information on the particular subjects on which it professes to treat; and is one of the very best books that can be recommended either to the Country Gentleman, the Farmer, or the Gardener, as a book of general reference, on subjects connected with Farming and Gardening.

Perennial.—Flowers in June, July, and August.

Root fibrous, tufted, not creeping. *Culms* (*stems*) numerous, upright, simple, from 1 to 2 feet high, smooth above; clothed on the lower part with soft deflexed hairs. *Leaves* strap-spear-shaped, flat and striated above, keeled below; covered on every part with soft hairs, which give them a greyish appearance. *Sheath* (*vagina*) marked with narrow, purplish lines, hairy on the outside, smooth and shining within. *Stipula* (*ligula*) blunt, toothed, hairy on the outside and on the edge. *Panicle* thrice compound, at first contracted, reddish, and a little drooping; afterwards upright, spreading, and whitish, with downy stalks. *Glumes* (*calyx-valves*) 2. dotted, hoary, or downy, nearly equal in length, the innermost broadest, with 3 ribs, and terminating in a point; the inner smaller and keeled. *Florets* shorter than the Glumes, as is also the *awn* of the barren floret. The awn in this species, as Sir J. E. Smith observes, is twisted and recurved when dry, but turns inwards when moist. *Seed* coated by the hardened polished *paleæ* or *corolla*.

"This Grass is very common, and grows on all soils, from the richest to the poorest. It attains to the greatest degree of luxuriance on light moist soils, particularly on those of a peaty nature. Cattle prefer almost any other grass to this; it is seen in pastures with its full-grown downy leaves entire, while the grasses which surround it are eaten to the roots. The numerous downy hairs which cover the whole plant, render the hay which is made of it soft and spongy, and in this state it is also disliked by cattle, particularly by horses. The nutritive matter consists almost entirely of mucilage and sugar. The grasses most liked by cattle have always a portion of bitter extractive and saline matters, as constituents of their nutritive principle. This grass, however objectionable in lands capable of growing the superior grasses, is yet of value on high, poor, exposed soils; there it affords a larger supply of food than any other grass, but it should not be introduced without mature consideration. The seeds are light and easily dispersed by the winds; and when once in possession of a soil, particularly of a moist and light one, there is scarcely any means that will get rid of it, without a course of fallow and clean tillage."—Mr. G. Sinclair, in Baxter's Lib. of Agricul. and Hort. Knowl. p. 306.

A very pretty fungus, *Sphaéria typhina* of Persoon, *Sphaéria spiculifera* of Sowerby, is frequently found on the culms and leaves of this Grass in the neighbourhood of Oxford. An excellent figure and description of this parasite is given by Dr. Greville, in his very beautiful "*Scottish Cryptogamic Flora*," t. 204. It is sometimes found on other Grasses.



SÁLVIA PRATÉNSIS. *MEADOW SAGE.* 2/

W.A.Delamotte Del.

SALVIA*.

Linnean Class and Order. DIA'NDRIA†, MONOGY'NIA.

Natural Order. LABIA'TÆ, Juss. Gen. Pl. p. 110.—Lind. Syn. p. 196; Introd. to Nat. Syst. p. 239.—Rich. by Macgilliv. p. 439. Sm. Gram. of Bot. p. 99.—Loud. Hort. Brit. p. 528.

GEN. CHAR. *Calyx* inferior, of one sepal, tubular, ribbed, permanent, unequally two-lipped, upper lip three-toothed, lower lip two-toothed. *Corolla* of one petal, having the tube dilated upwards, compressed; upper lip concave, curved inwards, notched; lower lip broad, three-lobed, the middle lobe the largest, and cloven. *Stamens* two (fig. 1.) *Filaments* with two spreading branches, one only bearing a perfect, oblong, single-celled *Anther*. *Germen* (fig. 3.) four-cleft. *Style* (fig. 2.) thread-shaped, curved with the stamens, and usually longer. *Stigma* forked. *Seeds* (fig. 4.) four, oval, in the bottom of the dry converging calyx.

The inferior, monopetalous, ringent corolla; the filaments with 2 spreading branches, one only bearing a perfect anther, and the 4 apparently naked seeds; will distinguish this from other genera in the same class and order.

Only two species British.—The exotic species of this genus are numerous, and many of them, especially some of those recently introduced into England, are very beautiful, and prove great ornaments to our gardens in the summer and autumn.

SA'LVIA PRATE'NSIS. Meadow Clary, or Sage. Clear-eye.

SPEC. CHAR. Lower Leaves oblong, crenate; heart-shaped at the base; stalked; uppermost sessile, clasping the stem. Bracteas very small. Corolla thrice as long as the calyx, glandular and viscid at the summit.

Eng. Bot. t. 153.—Linn. Sp. Pl. p. 35.—Huds. Fl. Angl. (2nd ed.) p. 10.—Sm. Fl. Brit. v. i. p. 30. Engl. Fl. v. i. p. 34.—With. (7th ed.) v. ii. p. 26.—Lindl. Syn. p. 197.—Hook. Brit. Fl. p. 10.—Sibth. Fl. Oxon. p. 8.—Abbot's Fl. Bedf. p. 6.—Walk. Fl. of Oxf. p. 8.—*Sclarea pratensis*, Gray's Natt. Arr. v. ii. p. 388.—*Sclarea pratensis foliis serratis, flore cæruleo.* Dillenius in Ray's Synopsis, p. 237.—*Horminum Sylvestre Fuchsii*, Johnson's Gerarde, p. 769.

LOCALITIES.—Dry pastures, meadows, and about hedges. Rare.—*Oxfordshire;* Between Middleton Stoney and Ardley: Dr. SIBTHORP, in Fl. Oxon. Mr. T. W. WEAVER found it in the same place, in abundance, in 1832. About Enstone and Spelsbury: Rev. J. SIBLEY, 1832.—*Bedfordshire;* In a pasture near Ford-End Farm: Rev. C. ABBOT in Fl. Bedf.—*Derbyshire;* Chrich; Mr. HALLOWS, in Bot. Guide.—*Gloucestershire;* Wick Cliffs. Mr. SWAYNE, in Bot. Guide.—*Kent;* near Cobham, RAY: Near Feversham, Mr. DICKSON.—*Norfolk;* In Horsford Meadow, GOUGH'S Camden.—*Northamptonshire;* In King's Thorp Church-yard, abundantly, MORETON.—*Surrey;* Common in

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Fig. 1. The two Stamens.—Fig. 2. The Germen, Style, and Stigma.—Fig. 3. the four unripe Seeds.—Fig. 4. A seed.

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* From *Salvo*, to *save* or *heal*, in allusion to its balmy or healing qualities. Dr. HOOKER.

† See *Veronica Chamædrys*, p. 50, note †.

this County: Dr. Stokes, in Bot. Guide.—*Sussex;* Common also in this County: Dr. Stokes, ibid.—*Yorkshire;* "In the North Riding, but I cannot recollect the place:" Mr. Teesdale, ibid.—WALES; *Isle of Anglesea;* In dry meadows, near Llanidan: Mr. Bingley, ibid.—*Glamorganshire;* Limestone meadows about Port Eynon: Dr. Turton, ibid.

Perennial.—Flowers in July and August.

Root somewhat woody, fibrous, brown and yellow on the outside, nearly white within. *Stem* from 2 to 3 feet high, upright, square, hairy, not very aromatic. *Leaves* oblong, heart-shaped at the base, nearly smooth, irregularly crenate, or notched, wrinkled and veiny, deep green; root-leaves and lower stem-leaves on long leaf stalks; the uppermost sessile, stem-clasping, and sharp pointed. *Flowers* about six in a whorl, whorls numerous, forming a long loose spike; each whorl is accompanied by a pair of small, egg-shaped, pointed bracteas. *Corolla* large and handsome, nearly four times as long as the calyx, of a fine purplish blue. The flower-stalks and calyx, as well as the summit of the corolla, are hairy and viscid.

The seeds of this, as well as of many other species of *Salvia*, are covered with a dense mucilage, which is not visible till the seeds are wetted. This mucilage I have found to be partly composed of very minute spiral vessels, similar to those first described by Professor Lindley as partly composing the mucous matter which envelopes the seeds of *Collómia linearis*. These spiral vessels are very numerous in the mucous matter which envelopes the seeds of *Sálvia verbenáca;* if a seed of this species is placed on a bit of glass on the stage of a compound microscope, and then subjected to moisture, by dropping upon it a drop or two of clear water, the spiral vessels may be seen, almost immediately, to dart forth from the outside of the testa or skin, and to form a complete and beautiful radius round the seed. If the seed on which the experiment has been tried is allowed to dry upon the glass, the spiral vessels will remain in their extended position, (their bases enclosed in the mucous matter which also dries upon the glass,) and may be preserved as an interesting object for the microscope at any future time. See Walker's *Fl. Oxf.* p. 9 ‡; and the "Report of the second Meeting of the British Association for the advancement of science," p. 595. —The seeds are sometimes used for removing extraneous matter from the eye, put under the eye-lid for a few moments.

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‡ The Flora of Oxfordshire, and its Contiguous Counties, (comprising the Flowering Plants only;) arranged in easy and familiar language, according to the Linnæan and Natural Systems, &c. By Richard Walker, B.D. F.L.S. and Fellow of Magdalen College, Oxford, 8vo. 1833. Published by H. Slatter, High street, Oxford.

Those who would wish to become acquainted with the flowering plants of Oxfordshire, and its contiguous counties, their places of growth, &c. will find this work a very useful and interesting guide. The descriptions of the plants are accurate and concise, and are preceded by an easy and familiar introduction, both to the Linnæan and Jussieuan systems, accompanied by twelve illustrative plates.





BORÁGO OFFICINÁLIS. *COMMON BORAGE.* ☉

W.A.Delamotte, Del. C.Mathews Sc.

BORA'GO*.

Linnean Class and Order. PENTA'NDRIA†, MONOGY'NIA.

Natural Order. BORAGI'NEÆ, Juss. Gen. Pl. p. 128.—Lindl. Syn. p. 163; Introd. to Nat. Syst. p. 241.—Rich. by Macgilliv. p. 440. Sm. Gram. of Bot. p. 102.—ASPERIFOLIÆ, *Linn.* Sm. Eng. Fl. v. i. p. 247.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of one sepal, deeply divided into 5 moderately spreading segments, permanent. *Corolla* (fig. 2.) of 1 petal, wheel-shaped; tube of various lengths; limb in 5 deep, flat, or twisted segments, widely spreading; mouth bordered with 5 short, blunt, notched valves, or with awl-shaped ones, or with both, in which case the latter bear the stamens at the inner side (fig. 3). *Filaments* 5, awl-shaped, various in length, converging. *Anthers* arrow-shaped, or oblong and notched. *Germens* (figs. 4 and 5.) 4. *Style* (fig. 4.) cylindrical. *Stigma* capitate. *Seeds* 4, (figs. 5 and 6.), egg-shaped, converging, rugged, or tuberculated, keeled outwardly towards the point, globular at the base, attached to the bottom of the closed calyx.

The wheel-shaped corolla, with its mouth closed with awl-shaped or notched valves, and the 4 (apparently) naked seeds, will distinguish this from other genera, with a monopetalous, inferior corolla, in the same class and order.

One species British.

BORA'GO OFFICINA'LIS. Common Borage.

SPEC. CHAR. Lower Leaves inversely egg-shaped, narrowed at the base. Segments of the corolla egg-shaped, pointed, spreading.

Eng. Bot. t. 36.—Linn. Sp. Pl. p. 197.—Huds. Fl. Angl. (2nd ed.) p. 82.—Sm. Fl. Brit. v. i. p. 219. Engl. Fl. v. i. p. 264.—With. (7th ed.) v. ii. p. 284.—Lindl. Syn. p. 164.—Hook. Brit. Fl. p. 82.—Sibth. Fl. Oxon. p. 71.—Abbot's Fl. Bedf. p. 43.—Thornton's Family Herbal, p. 167.—Purt. Midl. Fl. v. i. p. 111.—Relhan's Fl. Cantab. (3rd ed.) p. 82.—Hook. Fl. Scot. p. 70.—Grev. Fl. Edin. p. 46.—Fl. Devon. pp. 35. and 151.—Johnston's Fl. of Berwick, v. i. p. 53.—Perry's Pl. Varv. Select. p 16.—Rev. G. E. Smith's Pl. of S. Kent, p. 13.—Walk. Fl. of Oxf. p. 50.—Mack. Catal. of Pl. of Ireland, p. 21.—Baxt. Lib. of Agricul. and Hort. Knowl. (2nd ed.) p. 54.—*Borago hortensis*, Johnson's Gerarde, p. 797.—*Borago officinalis*, Gray's Nat. Arr. v. ii. p. 350.—*Borrago hortensis*, Ray's Syn. p. 228.

LOCALITIES.—In waste or cultivated ground, by road-sides, and amongst rubbish. A doubtful native.—*Oxfordshire;* Near the Parks: Dr. SIBTHORP. Side of the Banbury road, between Oxford and Summer Town, August, 1831. W. B.—*Berks;* On walls and among rubbish: Dr. MAVOR's Agricul. Surv. of Berks.—*Bedfordshire;* Duck Mill, Bedford; Ampthill Warren: Rev. C. ABBOT, in Fl. Bedf.—*Cambridgeshire;* Parker's Piece; Emmanuel College; Jesus Grove; Cow-fen: Rev. R. RELHAN.—*Cornwall;* Kedgworth; near St.

Fig. 1. Calyx.—Fig. 2. Corolla, with the Valves and Stamens.—Fig. 3. One of the Stamens, attached to one of the awl-shaped Valves.—Fig. 4. Germen, Style, and Stigma.—Fig. 5. Lobes of the Calyx removed, showing the four unripe seeds attached to its base.—Fig. 6. A ripe Seed, or Nut.

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* From *Cor*, *heart*, and *ago*, *to bring;* thence corrupted into *Borago*, or as the French spell it, *Borrago*. Dr. HOOKER.

† See *Anchusa* sempervirens, p. 48. note †.

Just; and between Crafthole and Looe: Rev. J. P. Jones, in Bot. Tour.—*Devon;* About Chudleigh and Teignmouth: Rev. J. P. Jones, ibid. Banks of the river near Tavistock: Mr. Knapp.—*Durham;* On the Ballast hills of Tyne and Wear: Mr. Winch.—*Hampshire;* Godshill, Isle of Wight: Mr. W. G. Snooke, in With. Bot. Arr.—*Kent;* At the entrance into Sandwich from Deal; and about Lyme Castle: Mr. Dillwyn; By the road-side Hythe East; and at Winchelsea, near the east gate: Rev. G. E. Smith.—*In Surrey;* Mr. W. Pamplin, Jun.—*Warwickshire;* In a field by Arrow turnpike: Mr. Purton, in Midl. Fl.—WALES. *Carnarvonshire;* On the summit of a high rock at Llandrydno, near Conway: Rev. S. Dickenson.—SCOTLAND; At Burntisland: Mr. Maughan. About Glasgow, but generally near gardens: Mr. Hopkirk. On the Debris of Salisbury Craigs: Mr. Bainbridge, in Grev. Fl. Edin. —IRELAND. *County of Cork;* Old Abbey of Timolegne: Mr. Drummond, in Mack. Catal.

Annual.—Flowers from June to November.

Root tapering, and mucilaginous. Whole plant clothed all over with white awl-shaped bristles, seated on a vesicular tubercle, which is often of a reddish colour; these tubercles, Mr. Thomson observes in his Lectures on Botany, p. 642, "contain a fluid, which is ejected through the bristle when it is compressed so as to wound the finger; and which being left in the wound excites a slight degree of inflammation in the part." *Stem* branched, from 1 to 2 feet high, round, hollow, spreading, leafy. *Leaves* alternate, egg-shaped, wavy, and more or less toothed; the lower ones broadest, and stalked; the upper ones sessile, somewhat stem-clasping, and slightly decurrent. *Flowers* numerous, and very beautiful, in terminal drooping bunches. *Calyx* divided to the very base. *Corolla* nearly an inch broad, of a brilliant blue colour; pink in the bud; segments of the limb spear-shaped; tube very short and white. Outer valves short, obtuse, and slightly notched; inner ones (fig. 3.) awl-shaped, dark purple, or blackish. *Filaments* very short, attached to the dilated base of the awl-shaped valves. *Anthers* strap-shaped, prominent, blackish. *Style* thread-shaped, usually shorter than the stamens. *Seeds* wrinkled or warty, of a light shining brown. The whole plant has somewhat the smell of cucumber. The flowers sometimes vary to flesh-coloured or white; the latter variety has been found in Kent, by Mr. Dillwyn, and by the Rev. G. E. Smith; about Allesley in Warwickshire, by the Rev. W. T. Bree; and it comes up annually from self-sown seeds in the Oxford Botanic Garden.

Borage was formerly reckoned one of the four cordial flowers, along with Alkanet, Roses, and Violets, and was held in great repute as a cordial herb, for exhilarating the spirits; and hence the old adage,

"I Borage, bring always courage."

The plant is now seldom used, except as an ingredient in cool tankards, for summer drinking. The young and tender tops are good in salads, or as a pot herb. The juice affords a true nitre.





PRUNÉLLA VULGÁRIS. *SELF-HEAL.* 4

C. Mathews, Del. & Sc.

PRUNE'LLA *.

Linnean Class and Order. DIDYNA'MIA †, GYMNOSPE'RMIA. ‡

Natural Order. LABIA'TÆ, Juss. Gen. Pl. p. 110.—Lind. Syn. p. 196 ; Introd. to Nat. Syst. p. 239.—Rich. by Macgilliv. p. 439. —Sm. Gram. of Bot. p. 99. ; Eng. Fl. v. iii. p. 63.—Loud. Hort. Brit. p. 528.—VERTICILLA'TÆ, of Ray, and of Linnæus.

GEN. CHAR. *Calyx* (fig. 1.) inferior, bell-shaped, 2-lipped ; upper lip flat, dilated, very abrupt, with 3 very short pointed teeth ; lower lip much narrower, but about as long, straight, divided half way down into two sharp pointed segments. *Corolla* (fig. 2.) ringent (gaping) ; tube short, cylindrical ; throat longer and wider ; upper lip concave, entire, inflexed ; lower lip reflexed, divided into 3 rounded, blunt, crenate lobes, the middle one broadest. *Filaments* 4, (fig. 4.) two a little longer than the other two, awl-shaped, forked at the summit. *Anthers* on the lower branch of each filament, opening transversely by 2 valves. *Germen* 4-lobed. *Style* (fig. 5.) thread-shaped, directed, like the stamens, towards the upper lip, and on a level with them. *Stigma* divided into 2 sharp recurved points. *Seeds* (figs. 6 & 7.) 4, somewhat egg-shaped, shining, in the bottom of the closed, dry, reticulated calyx.

Distinguished from other genera in the same class and order, by the 2-lipped calyx, and the forked filaments, one of the points bearing the anther, the other naked.

One species British.

PRUNE'LLA VULGA'RIS. Common Self-heal, or Slough-heal.

SPEC. CHAR. Leaves stalked, between oblong and egg-shaped ; teeth of the upper lip of the calyx very minute.

Eng. Bot. t. 961.—Curt. Fl. Lond. t. 229.—Linn. Sp. Pl. p. 837.—Huds. Fl. Angl. (2nd ed.) p. 264.—Sm. Fl. Brit. v. ii. p. 646.—Eng. Fl. v. iii. p. 114.—With. (7th ed.) v. iii. p. 725.—Lindl. Syn. p. 205.—Hook. Brit. Fl. p. 281.—Mart. Fl. Rust. t. 137.—Sibth. Fl. Oxon. p. 190.—Abbot's Fl. Bedf. p. 133.—Purt. Midl. Fl. v. i. p. 281.—Rehl. Fl. Cantab. (3rd ed.) p. 248.—Hook. Fl. Scot. p. 185.—Grev. Fl. Edin. p. 134.—Fl Devon. pp. 102. and 146.—Johnston's Fl. of Berwick, v. i. p 134.—Rev. G. E. Smith's Pl. of S. Kent, p. 32.—Walk. Fl. of Oxf. p. 173.—Mack. Catal. of the Pl. of Ireland, p. 57.—*Prunélla*, Ray's Syn. p. 238.—Johnson's Gerarde, p. 632.—*Brunèlla vulgaris*, Gray's Nat. Arr. v. ii. p. 389.

LOCALITIES.—In meadows and pastures. Common.

Root somewhat creeping, fibrous. *Stem* from 6 inches to a foot high, upright or ascending, commonly branching from the very base, jointed, the lowermost joints sending down roots, nearly square, with a deep groove on 2 opposite sides alternately, clothed, especially at the angles, with whitish hairs, which point upwards.

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. A Stamen.—Fig. 4. Outline of a flower, cut open, showing the four Stamens, with the Anthers attached to the inner forks of the Filaments.—Fig. 5. Germen, Style, and Stigma.—Fig. 6 and 7. a Seed.—All, except fig. 6, more or less magnified.

* From the German, *braüne*, the *quinsy*, whence *Brunella* of Ray, softened into *Prunella*.—Dr. HOOKER.

† See *Lamium album*, p. 31. note †. ‡ See *Lamium album*, p. 31. note ‡.

Leaves opposite, stalked, egg-shaped or oblong, pointed or bluntish, crenate (notched) or wavy, paler beneath, with prominent hairy ribs. *Flowers* numerous, deep purplish blue, sometimes red, or white, in dense, solitary, upright, cylindrical, whorled *spikes*, about an inch long, and blunt, appearing as if cut off at the top; each whorl is composed of 6 flowers, and is subtended by a pair of broad, blunt, ribbed, partly coloured, *braeteas, (floral-leaves)*. *Calyx* (fig. 1.) a little longer than the bracteas, hairy, especially towards the base, summit purplish, upper lip dilated, having 3 short teeth, and 7 ribs; lower lip bifid (2-cleft) and sharp pointed (mucronate); all the segments bordered with short stiff hairs. *Corolla* (fig. 2.) ringent, the tubular part a little longer than the calyx, the upper lip hollow, entire, and a little hairy above, the lower lip divided into 3 segments, of which the side ones are entire, the middle one finely toothed. *Filaments* (fig. 3.) forked at the extremity, the innermost fork bearing the anther. *Anthers* of 2 diverging lobes. *Seeds* (fig. 6 & 7.) smooth, brown, and terminated by a white point. The corolla very soon falls, when the lips of the calyx close together, and secure the seeds. The white flowered variety is not very uncommon; it has been observed in the neighbourhood of Oxford; the Rev. J. Dodd found it on Aspatria Moss, in Cumberland; Mr. W. Pamplin, jun. about Battersea, in Surrey; and the Rev. G. E. Smith has recorded it as growing by the pond-side at the Cherry-Garden, near Folkstone, Kent. A bright red flowered variety was found by Mr. W. Pamplin, jun. near Battersea. Sir J. E. Smith mentions a dwarf variety, *Brunella minor*, of Haller, which has quite entire leaves, but I do not know that it has ever been found wild in England.

Prunella vulgaris varies much in size; Linnæus remarks, that "in open exposed situations it is short and trailing; but when drawn up among high grass, and especially in woods, it is upright and a foot high. In the latter case it has a flexuose stem, branches little, and has very long internodes" (spaces between the joints). Cows, goats, and sheep, are said to eat it; horses and swine to refuse it.

Being astringent, it was formerly used in fluxes, and in gargarisms for a sore throat, and ulcers of the mouth. It was also considered one of the best herbs to cure fresh wounds, but it is now out of use. Besides the English names given to it above, it is sometimes called *Prunel, Carpenter's Herb, Sickle-wort*, and *Hook-heal*.

Mr. J. Haines, of the Radcliffe Library, Oxford, discovered a new and beautiful species of *Asterôma* on the stems and upper surface of the leaves of this plant, in Bagley Wood, near Oxford, on the 10th of Feb. 1824. My much-lamented friend, the late T. Purton, Esq. of Alcester, Warwickshire, an excellent Botanist, and author of the *Midland Flora*, so often referred to in this work, named it *A. Prunellæ*. It is by no means uncommon in Bagley Wood, principally on such plants of the *Prunella* as grow in moist places, or on the margins of rills, &c. I have found it on Shotover Hill in similar situations. See my *Stirpes Crypt. Oxon.* No. 79.



PHLÉUM PRATÉNSE. *TIMOTHY GRASS.* 2

C.J.Mathews Del.&Sc.

PHLE'UM*.

Linnean Class and Order. TRIA'NDRIA†, DIGY'NIA.

Natural Order. GRAMI'NEÆ, Juss. Gen. Pl. p. 28.—Lind. Syn. p. 293: Introd. to Nat. Syst. p. 292.—Rich. by Macgilliv. p. 393.—Sm. Gram. of Bot. p. 68. Eng. Fl. v. i. p. 71.—Loud. Hort. Brit. p. 542.

GEN. CHAR. *Panicle* contracted, spike-like. *Calyx* (fig. 1.) of 2 nearly equal, compressed, clasping, parallel, pointed, or awned, more or less abrupt, glumes, spreading at the top, and containing a single floret (fig. 3). *Corolla* of 2 unequal, mostly awnless, palcæ, concealed within the calyx, always remaining membranous; the larger valve or pelea clasping the smaller. *Filaments* 3, hair-like. *Anthers* strap-shaped, prominent, cloven at each end. *Germen* roundish. *Styles* 2, (fig. 4) thread-shaped, spreading. *Stigmas* feathery. *Seeds* elliptic-oblong, loose.

Distinguished from other genera in the same class and order by the compact spike-like panicle, the calyx of 2 close, parallel, pointed glumes, concealing the corolla of 2 awnless palcæ, and the loose seed.

Six species British.

PHLE'UM PRATE'NSE. Common Cat's-tail-grass. Timothy-grass.

SPEC. CHAR. Panicle spiked, cylindrical. Calyx-glumes blunt, fringed at the back. Awns shorter than the glumes.

Eng. Bot. tab. 1076.—Host's Icones et Descriptiones Graminium Austriacorum, v. iii. p. 7. t. 9.—Schreber's Beschreibung des Gräser, t. 14. f. 1, and 2.—Knapp's Gram. Brit. t. 6. (apparently var. minor.)—Linn. Sp. Pl. p. 87.—Huds. Fl. Angl. (2nd ed.) p. 25.—Sm. Fl. Brit. v. i. p. 68. Engl. Fl. v. i. p. 75.—With. (7th ed.) v. ii. p. 147.—Lindl. Syn. p. 300.—Hook. Brit. Fl. p. 29.—Gray's Nat. Arr. v. ii. p. 139.—Mart. Fl. Rust. t. 5.—Leers' Fl. Herb. (2nd ed.) p. 16. t. 3. f. 1.—Sinel. Hort. Gram. Woburn. p. 19. t. 5. and p. 195, with a figure.—Sibth. Fl. Oxon. p. 34.—Abbot's Fl. Bedf. p. 13.—Purt. Midl. Fl. v. 1. p. 67.—Relh. Fl. Cantab (3rd ed.) p. 26.—Hook. Fl. Scot. p. 23.—Grev. Fl. Edin. p. 15.—Johnston's Fl. of Berwick v. i. p. 18.—Fl. Devon. pp. 11. and 120.—Walk. Fl. of Oxf. p. 16.—Sinclair in Baxt. Lib. of Agricul and Hort. Knowl. (2nd ed.) p. 392, with a figure.—*Gramen typhinum majus seu primum*, Ray's Syn. p. 398.

LOCALITIES.—Moist meadows, and pastures. Common.

Perennial.—Flowers from June to August.

Root somewhat creeping. *Culm (Stem)* from 2 to 4 feet high, knotty, upright, round, striated, leafy, except near the top. *Leaves* spear-shaped, flat, pointed, roughish on the upper surface and along the nerves; with long, close, striated *sheaths*, and a small blunt *stipula*. *Panicle* upright, cylindrical, blunt at the top, sometimes 5 or 6 inches long, composed of innumerable crowded *flowers*, on very short, subdivided, partial stalks. *Glumes* of the Calyx very much compressed, hairy, green or purplish, keeled, the keel

Figs. 1. & 2. Calyx Glumes closed.—Fig. 3. The same expanded, showing the Palcæ or Corolla, the three Stamens and two Pistils.—Fig. 4. Germen, Styles, and Stigmas.—Fig. 5. A small portion of the root.

* From *Phleos*, Gr. the name formerly given, as is supposed, to the *Reed-mace, Typha*, to which this grass has some distant resemblance.—Dr. HOOKER.

† See *Alopecurus pratensis*, p. 45. note †.

fringed with white, spreading, bristly hairs ; each glume with a straight, short, rough *awn*, and a dilated, blunt, membranous margin. *Nectaries* egg-shaped, tapering to a point, surrounding the germen at the base. *Anthers*, first violet, then yellowish

There is a variety of this (var. β of Sir J. E. Smith) with a slightly tuberous root, a partly decumbent culm, and a shorter spike; this is the *Phleum pratense* var. *minus* of Mr. Sinclair, and the *Gramen typhinum minus* of Ray : it is generally found in less fertile spots, and by way sides. *Phleum nodosum* of Linnæus, Willdenow, Leers, and Sinclair, is considered by Sir J. E. Smith, Dr. Withering, and several other writers, as not specifically distinct from *Phleum pratense*, the principal difference consists in the *Phleum nodosum* having knee-bent culms, which are furnished with bulbs at the lower joints, and which, in time, become plants.

Although the *Phleum pratense* is a native of Britain, and by no means uncommon, yet it appears to have been first introduced to British farming from America, in 1763, by Mr. Wynch. It is said to have received the quaint name of *Timothy Grass*, from Mr. Timothy Hanson having first brought the seeds of it from New York to Carolina, about the same time that it was introduced into England. It had then a great character in America, where it is called *Herd Grass;* and Mr. Sinclair informs us that he was, in 1815, informed by a proprietor of land in Canada, that it was still considered the best grass in that province; notwithstanding this, however, writers seem to differ much in their opinions with regard to the merits of this grass. Leers says, it is very grateful to horses.— Krocker, that both horses and kine are fond of it green, and in hay.— Villars, that it affords excellent forage. Dr. Pulteney says, that notwithstanding the character which this acquired from Le Rocque's recommendation, sheep dislike it; neither are cows or horses fond of it.—Mr. Swayne, that it is a hard coarse grass, of little value for cattle.—Mr. Curtis, that it is productive, but coarse and late, and that it has no excellence which *Fox-tail-grass* (*Alopecurus pratensis*, t. 45.) does not possess in an equal degree. Mr. G. Sinclair, who has paid more attention to the British grasses than any other person ever has done, says, that " the culms of this grass, at the time the seed is ripe, contain more nutritive matter than those of any other species of grass, which have been submitted to experiment. In regard to the early produce of herbage in the spring, it is superior to cock's-foot grass. The weight of grass produced by each species at this season is nearly equal, but the nutritive powers of the herbage of the *Timothy* is superior to the cock's-foot, in the proportion of nine to eight. Though the nutritive matter contained in the seed crop is greater than at the season of flowering, nevertheless the seed of the latter-math, or the produce of herbage which would follow the period from flowering to seeding, would greatly outweigh this advantage, and it is therefore proper to take the crop when the plant is in flower, or a little after, but before the seed be perfected. When the season is dry, the crop should be taken as soon as the flowering spikes show their anthers; but when moist and cloudy, it is more profitable to suffer a week or a fortnight to elapse before cutting for hay. It is not adapted for dry sandy soils, but in all those of an intermediate quality it is permanent and valuable when combined in a due proportion with other grasses. The quantity of seed in general cases for an acre, combined with a due proportion of other grasses, is five pounds. It is of great importance to the agriculturist to be able to distinguish this variety from the smaller variety, or *Ph. pratense minus*, which is a worthless grass, and differs from the true Timothy grass in having the awns of the calyx-glumes longer, and recurved ; the husks are longer in every respect, and less ciliated or fringed. The culms are almost covered with the sheaths of the leaves, the joints of the straw are less swoln, and it does not grow upright, but ascending, and the root is more like a bulb. Cattle appear to dislike this variety much, and it is a grass to be avoided. The proportional value which the produce of this variety bears to that of the true one, is as twenty-five to eight."— See *Baxt. Lib. of Agr. and Hort. Knowl.* p. 302.

Hysterium graminеum of Persoon, is frequently found parasitical on the dead culms and leaves of this and other grasses about Oxford.





CHLÓRA PERFOLIÁTA. *PERFOLIATE YELLOW-WORT.* ○

M.G. Isabella M. Clark, Del. Charles Mathews, Lt.

CHLO'RA*.

Linnean Class and Order. OCTA'NDRIA†, MONOGY'NIA.

Natural Order. GENTIA'NEÆ. *Juss.*—Lindl. Syn. p. 177; Introd. to Nat. Syst. p. 215.—Rich. by Macgilliv. p. 444.—Loud. Hort. Brit. p. 526.—GENTIA'NÆ. Juss. Gen. Pl. p. 141.—Sm. Gram. of Bot. p. 106.—ROTA'CEÆ of *Linnæus.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 8 strap-shaped, pointed, spreading, permanent sepals. *Corolla* (fig. 2.) of 1 petal, salver-shaped; tube shorter than the calyx, investing the germen; limb in 8, rarely but 6, deep, equal, elliptic-oblong segments, spiral in the bud, longer than the tube. *Filaments* thread-shaped, short, from the mouth of the tube, as many as the segments of the limb, and alternate with them. *Anthers* strap-shaped, upright, shorter than the corolla. *Germen* (fig. 3.) superior, egg-oblong. *Style* cylindrical, rather longer than the tube, upright. *Stigmas* 2, oblong, cloven. *Capsule* (figs. 4 & 5.) egg-shaped, with a furrow along each side, of 1 cell, and 2 valves with incurved margins. *Seeds* numerous, very small, angular, minutely granulated, inserted in many rows along the incurved margin of the valves.

Distinguished from other genera in the same class and order, by an inferior calyx of 8, or 6, sepals; a corolla of 8, or 6, deep segments; and a capsule of 1 cell and 2 valves.

One species British.

CHLO'RA PERFOLIA'TA. Perfoliate Yellow-wort. Yellow Centaury.

SPEC. CHAR. Leaves egg-shaped, connato-perfoliate. Panicle forked, many-flowered.

Eng. Bot. t. 60.—Hook. Fl. Lond. t. 2.—Linn. Syst. Nat. (12th ed.) v. ii. p. 267.—Huds. Fl. Angl. (2nd ed.) p. 168.—Sm. Fl. Brit. v. i. p. 413.—Engl. Fl. v. ii. p. 218.—With. (7th ed.) v. ii. p. 477.—Lindl. Syn. p. 179.—Hook. Brit. Fl. p. 175.—Gray's Nat. Arr. v. ii. p. 339.—Lightf. Fl. Scot. v. i. p. 200.—Sibth. Fl. Oxon. p. 123.—Abbot's Fl. Bedf. p. 86.—Purt. Midl. Fl. v. i. p. 193. and v. iii. p. 355.—Relh. Fl. Cant. (3rd ed.) p. 158.—Rev. G. E. Smith's Pl. of S. Kent, p. 23.—Fl. Devon. pp. 67 & 153.—Perry's Pl. Varvicensis Selectæ, p. 34.—Mack. Catal Pl. of Ireland, p. 36.—Walk. Fl. of Oxf. p. 108.—*Blackstónia perfoliáta*, Huds. Fl. Angl. (1st ed.) p. 146.—*Centaurium luteum perfoliatum*, Ray's Syn. p. 287.—Blacks. Sp. Bot. p. 13.—*Centaurium parvum luteum Lobelii*, Johnson's Gerarde, p. 547.

LOCALITIES.—On chalky, limestone, and clayey, or marly soils.—Not very uncommon.—*Oxfordsh.* Penley Hangings: Dr. SIBTHORP. About Mapledurham: Mr. A. R. BURT, 1833.—*Berks.* Near Reading: Mr. FARDON. On a clayey soil in a field on the right hand side of the road going from Botley to Ensham, between the 3rd and 4th milestone from Oxford: Mr. J. BINWELL, 1812. I found it in the same field in 1831. W. B. In an old stone-pit between the old and the new roads from Oxford to Ensham, nearly opposite to Wythan[illegible]

Fig. 1. Calyx and Pistil.—Fig. 2. Corolla and Stamens.—Fig. 3. Germen, Style, and Stigmas.—Figs. 4 & 5. Capsule.—Figs. 1, 2, & 3, highly magnified.

* From *Chloros*, Gr. *pale* or *yellowish green*; in allusion to the colour of its flowers. Dr. HOOKER.—It is nearly allied to *Gentiána*, from which it was first separated by Mr. HUDSON, who gave it the name of *Blackstónia*, after Mr. J. BLACKSTONE, an Apothecary in London, and author of a Catalogue of Plants growing wild in the neighbourhood of Harefield in Middlesex, and a small volume intituled, "Specimen Botanicum," &c.—LINNÆUS at first adopted Mr. HUDSON's name, but changed it afterwards to *Chlóra*, an appellation it had received from RENEAULME; in consequence of this Mr. HUDSON gave up the title of *Blackstónia* in the second edition of his Flora.

† See *Adóxa Moschatéllina*, p. 42, note †.

Wood: W. B.—About Appleton and Eaton: Miss Hoskins.—*Bedfordsh.* Milton Hill; and Bromham Pastures: Abbot.—*Bucks.* Gravel-pit near Burnham; and at Cliffden: Mr. Gotobed. In an old chalk-pit at Gerarde's Cross, plentiful: Blackstone. In an old chalk-pit near Medenham, on the road between Henley and Marlow: Mr. E. Jenner, 1833.—*Cambridgesh.* Teversham Moor; Pastures near Madingley Gap; Shelford Common, &c.: Relhan.—*Cheshire;* Fields from New Ferry to Park Gate: Brandeby.—*Cumberland;* Spade Adam, near the House: Hutchinson.—*Derbysh.* Pleasly Park: Coke. Whitewell: Pilkington.—*Devon;* Braunton Burrows: Wavell. Branscombe Cliffs, and near Star-cross. Jervis.—*Dorset;* Not uncommon on the Chalky Downs, on Hod, and Hambledon Hills; in the Isle of Branksea; in Purbeck; and in Nutford-field, near Blandford: Pulteney.—*Essex;* Bordeis of fields about Rickling: Forster.—In the chalk-pit and corn-fields near Newport, and in fields near the Broom, Henham: Forster. Near Broomfield: Loudon.—*Gloucestersh.* Vale of Dudcombe, near Painswick: Roberts. Plentiful on the hills about Stroud: G. W. Sandys, Esq. Pemb. Coll. Oxford.—*Hampsh.* Bordean Hill: Pulteney. Banks in the King's-field, Selborne: White. Road-side between St. Lawrence and Shanklin, near Carisbrook Castle; and Ventnor Cove, Isle of Wight: Bot. Guide, and With. Arr.—*Herefordsh.* In the Northern and Eastern parts: Duncomb.—*Herts;* Common in the chalky parts of the county: J. Woons.—*Kent;* Plentiful about Dover: Dillwyn. About Gravesend: Blackstone. About Feversham: Mr. E. Jacob. About Cuxton: Rev. H. T. Ellicombe.—*Lancash.* Knot's hole Rocks near Liverpool: Bostock.—*Leicestersh.* About Saltby, and Sproxton: Crabbe.—*Lincolnsh.* In Belton Park: Martyn.—*Norfolk;* Bath Hills, Ditchingham; and at Bressingham: Woodwann. Raveningham: Fisher.—*Northamptonsh.* The more barren pastures at Thorp Malsor: Morton.—*Notts;* In White Moor Close near Radford Church; and about Mansfield: Martyn.—*Shropsh.* Colebrook Dale; Wenlock Edge near Harley: Evans.—*Somersetsh.* On St. Vincent's Rock; and in Leigh Wood: Dyer. About Bitton near Bath: Rev. H. T. Ellicombe. Near Yeovil: M. N. H.—*Staffordsh.* Ranton Abbey: Dr. Withering.—*Suffolk;* About Bury: Sir T. G. Cullum. Near Bungay: Woodward. About Yoxford: Davy. *Surrey;* Common about Dorking, and in the chalky parts of the county; on Reigate Hill, and in the great chalk-pit near Cheam: Bot. Guide.—*Sussex;* On the Downs, but not very frequent: W. Borrer, Esq.—*Warwicksh.* Great Alne, Grafton, and near Roll's Wood: Purton. Road between Alcester and Stratford: Rev. W. T. Bree and Mr. W. G. Perry.—*Worcestersh.* Side of Malvern Chace: Ballard. Edge of the Ridd Cliff: Dr. Stokes. About Great Comberton, and elsewhere: Nash.—*Yorksh.* On the wolds near Beverley; between Doncaster and Ferry Bridge; About Thorp Arch, and Kippax; common about Copsgrove: Burton Lime-kilns; Mackershaw Wood; Studley Lime-kilns; and other places about Ripon, plentiful; near Sheffield; Bot. Guide; and about Rotherham: Langley.—WALES. *Carnarvonsh.* Near the Orme's Head: Evans.—*Denbighsh.* About Abergele: Griffith. *Flintsh.* Fields at the sea coast near Rhyl: Griffith. Side of the hill by the road-side leading from St. Winifred's Well at Holywell to the sea coast: Bingley. Old pastures near Downing: Davies.—*Glamorgansh.* Frequent in the Peninsular of Gower, and other parts of the county: Dillwyn.—Not found in SCOTLAND: Dr. Hooker.—IRELAND. Frequent in the county of *Dublin.* Not found in the southern counties: Mackay.

Annual.—Flowers from June to September.

Root of a few twisted fibres. *Stem* from 6 inches to 2 feet high, upright, round, smooth, leafy, unbranched. *Leaves* egg-shaped, pointed, connato-perfoliate (each pair being so combined as to appear like one leaf with the stem growing through it). *Flowers* in a repeatedly forked panicle, with a pair of leaves at the base of each fork. *Calyx* of 8, sometimes 10, sepals. *Corolla* bright yellow, the segments of the limb lap over each other, and vary from 8 to 10. *Stamens* from 6 to 9 or 10. *Style* thickest towards the top, cloven, yellow. *Stigmas* 2, scarlet.

The whole plant is of a glaucous colour, and very bitter, and is considered to possess the same medical virtues as *Gentiana* and *Erythraea*. Sir J. E. Smith says the flowers open in sunshine only. The Rev. G. E. Smith observes, in his interesting little work quoted above, that "the central flower expands early in the morning, and closes at noon; the lateral flowers then expand, and continue open until sunset."—The accompanying Plate is from a beautiful drawing by Miss Isabella M. Clark, by whom it was kindly presented to the Editor.



PARNÁSSIA PALÚSTRIS. *GRASS of PARNASSUS.* 2/

J. Mathew, Del. & Sc.

PARNA'SSIA*.

Linnean Class and Order. PENTA'NDRIA†, TETRAGY'NIA.

Natural Order. SAXIFRA'GEÆ, Lindl. Syn. p. 66; Introd. to Nat. Syst. p. 49.—DROSERA'CEÆ, Rich. by Macgilliv. p. 504.—Loud. Hort. Brit. p. 501.—PARNA'SSIÆ, Gray's Nat. Arr. v. ii. p. 670.—*Capparidibus affinia*, Juss. Gen. Pl. p. 244.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of one sepal, in five very deep oblong, spreading, permanent segments. *Corolla* of five egg-shaped, obtuse, concave, spreading petals, which are longer than the calyx, with several longitudinal pellucid ribs. *Nectaries* (fig. 4.) five fleshy scales, opposite the petals, each fringed at the upper edge with a row of globular-headed bristles, from three to thirteen in number. *Filaments* five, awl-shaped, spreading, each in its turn incumbent over the pistil. *Anthers* heart-shaped, flattened. *Germen* (fig. 3.) egg-shaped, large. *Styles* none *Stigmas* four, obtuse, permanent, subsequently spreading, and rather enlarged. *Capsule* (fig. 5.) superior, egg-shaped, but somewhat four-angled, of one cell, and four valves, each valve bearing a longitudinal strap-shaped *placenta (receptacle of the seeds)*. *Seeds* (fig. 6.) numerous, oblong, curved upwards, each bordered with a narrow, longitudinal wing.

The nectaries, fringed with globular-headed bristles, will distinguish this genus from all others in the same class.

One species British.

PARNA'SSIA PALU'STRIS. Common Grass of Parnassus.

SPEC. CHAR. Leaves heart-shaped. Stem one amplexicaul. Bristles of the nectary from 9 to 13.

Engl. Bot. t. 82.—Hook. Fl. Lond. t. 1.—Linn. Sp. Pl. p. 391.—Huds. Fl. Angl. (2nd ed.) p. 131.—Sm. Fl. Brit. v. i. p. 340. Eng. Fl. v. ii. p. 114.—With. (7th ed.) v. ii. p. 404.—Lindl. Syn. p. 67.—Hook. Brit. Fl. p. 144.—Gray's Nat. Arr. v. ii. p. 670.—Lightf. Fl. Scot. v. i. p. 172.—Sibth. Fl. Oxon. p. 105.—Abbot's Fl. Bedf. p. 71.—Purt. Midl. Fl. v. i. p. 163. and v. iii. p. 350.—Relh. Fl. Cantab. (3rd ed.) p. 130.—Maund's Botanic Garden, v. iii. N°. 195.—Hook. Fl. Scot. p. 96.—Grev. Fl. Edin. p. 73.—Johnston's Fl. of Berwick, v. i. p. 73. Perry's Pl. Varv. Selectæ, p. 27.—Mack. Cat. Pl. of Irel. p. 31.—Walk. Fl. of Oxf. p. 87.—*Parnássia vulgáris et palústris*, Ray's Syn. p. 355.—*Grámen Parnássi*, Johnson's Gerarde, p. 840.

LOCALITIES.—In spongy bogs and commons, and in marshy pastures, especially in mountainous countries, plentiful.—*Oxfordshire;* Peat-bogs on Bullington Green; and under Headington-Wick Copse: Dr. SIBTHORP. Shotover Hill; and in bogs on the North side of the village of Upper Heyford, abundant: 1831. W. B. Latchford-bog, near Great Haseley: Miss ARMETRIDING.—*Berks;* In a pasture a little above Botley, near Oxford: PARKINSON. In the same place, in 1832: Mr. J. BIRCH. In a bog between Tubney and Oakley House, in abundance: Aug. 1833. Mr. E. JENNER.—*Bedfordshire;* Stevington, Turvey, and Ampthill: Rev. C. ABBOT.—*Bucks;* Near Wing, in abundance: Mr. W. PAMPLIN, jun.—*Cambridgeshire;* On Shelford, Teversham, Trumpington, and Sawston Moors; and near Linton: Rev. R. RELHAN.—*Derbyshire;* On the tops of the high lands about Buxton: Miss SPANNOW.—*Dorsetshire;* In Purbeck; on Wareham Heath: Dr. PULTENEY.—*Essex;*

Fig. 1. Calyx.—Fig. 2. Nectaries, Stamens, and Germen.—Fig. 3. Germen in a young state.—Fig. 4. One of the Nectaries magnified.—Fig. 5. A ripe Capsule.—Fig. 6. A Seed magnified.—Fig. 7. A transverse section of the Capsule, showing the 4 placentæ or receptacles of the seeds.

* From Mount Parnassus, to which place, indeed, the plant is by no means peculiar. Dr. HOOKER. † See *Anchusa Sempervirens*, p. 48. note †.

About High-Ongar and Chipping-Ongar: Mr. Blackstone.—*Gloucestershire;* In Fairford Marsh near Fairford: Mr. Dickson.—*Hertfordshire;* In a boggy field near Caisshoberry Park: Mr. Blackstone.—*Lancashire;* In Bootle Marsh and Crosby Rabbit Warren, near Liverpool: Dr. Bostock.—*Leicestershire;* Near Buddon Wood: Dr. Martyn. Near Grooby Pool: Rev. A. Bloxam.—*Middlesex;* Near Harefield Mill: Mr. Blackstone.—*Norfolk;* Common in every boggy meadow: Mr. Woodward.—*Northamptonshire;* About Rowel, and Thorp: Dr. Martyn. In boggy ground below the Red Well of Wellingborough: Mr. Goodyer. In marshy ground by the side of a rill a few hundred yards to the left of the road leading from Norton to Dodford, near Daventry: Dr. Withering.—*Nottinghamshire;* At Basford, Scottum, and Papplewick: Dr. Deering.—*Shropshire;* Canton Rough, Bridgenorth: Hall.—*Staffordshire;* At Blymhill: Rev. S. Dickenson.—*Suffolk;* About Hesset and Drinkstone: Parkinson. Near Bungay: Mr. D. Stock, in Mag. Nat. Hist. v. iii. p. 155.—*Warwickshire;* Coleshill-bog, and Knowle: Mr. Purton.—In meadows at Penn's Mill, near Eidington: Dr. Withering. Near Stone Bridge; and in meadows between Bradnock's Marsh and Berkswell, plentiful: Mr. Smith. Boggy meadows near Warwick: Rev. W. T. Bree. Norbiooke, and near Fern Hill: Mr. W. G. Perry.—*Worcestershire;* Broomsgiove Lickey, and Feckenham Moors: Mr. Purton.—*Yorkshire;* Plentiful in Lansdall and Craven, and at Doncaster, and in Thornton Fields: Gerarde. Near Rotherham: Mr. L. Langley. And in a field near Richmond: L. E. O. in Mag. Nat. Hist.—*Berwickshire;* Plentiful in the Castle Fields of Berwick-upon-Tweed: Gerarde and Mr. Winch. Holy Island Links: Mr. Winch. Common in the neighbourhood of Berwick, particularly on Moors: Dr. Johnston.—WALES. In moist meadows, not uncommon.—SCOTLAND. Loch Nakiel, and head of Loch Awe: Dr. Bostock. Pentland Hills, abundant near the Water-house, and near Swanston Wood: Mr. Neill. King's Park: Mr. Bainbridge.—IRELAND. In marshy grounds, frequent. Marsh under Killiney Hill, and low sandy grounds at Portmarnock, &c.: Mr. J. T. Mackay.

Perennial. Flowers in August and September.

Root small, whitish, fibrous. *Stems* from six inches to a foot high, upright, simple, angular, smooth, and somewhat twisted, each bearing one sessile, stem-clasping, entire leaf, a little below the middle; and one white, very elegant flower, at the top. *Root-leaves* numerous, on long *footstalks*, heart-shaped, more or less pointed, quite entire, smooth, with several longitudinal ribs. *Corolla* about an inch wide, scentless. *Petals* broadly egg-shaped, white, and marked with greenish pellucid veins. *Nectaries* large, and very beautiful, alternating with the stamens, each an inversely heart-shaped, green scale, fringed with about thirteen filaments, which are tipped with yellow pellucid globules. *Stamens* about half the length of the petals, at first not longer than the germen (fig. 2.), but as soon as the flower is expanded, one of the filaments gradually increases in length, and presents its anther over the stigmas, where it remains till it has shed its pollen, after which it recedes from the germen, and falls back to the petals. Thus, one stamen having performed its destined office and retired, a second advances in like manner; as also do the other three in succession, till the pollen of all is discharged, and the fructification of the seed thereby completed. From observations made in September 1828, on some plants of the *Parnassia* which were then in flower in the Oxford Botanic Garden, I found that each stamen occupied about twenty-four hours in elevating itself above the stigmas, and discharging its pollen; after which it was about the same length of time retiring from the stigmas to the petals. Eight days elapsed between the opening of the flower and the receding of the fifth and last stamen from the germen. "The time, however," as is observed by Mr. Maund, in the Botanic Garden, "will vary in proportion to the stimulus yielded to its powers of vegetation, by the less or greater supply of heat and moisture."





LYCHNIS FLOS CUCULI. *RAGGED ROBIN.* 4

C. Mathews, Del. & Sc.

LY'CHNIS*.

Linnean Class and Order. DECA'NDRIA†, PENTAGY'NIA.

Natural Order. CARYOPHY'LLEÆ, Juss. Gen. Plant. p. 299.—Sm. Gram. of Bot. p. 159.—Lindl. Syn. p. 43; Introd. to Nat. Syst. p. 156.—Rich. by Macgilliv. p. 507.—Loud. Hort. Brit. p. 501.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, tubular, oblong, membranous, ribbed, 5-toothed, permanent. *Corolla* of 5 petals; their claws flat, thin edged, as long as the tube of the calyx, usually crowned at the mouth; border flat, spreading, mostly divided. *Filaments* (fig. 2.) 10, longer than the calyx; 5 alternate ones later than the rest, and attached to the claws of the petals. *Anthers* oblong, incumbent. *Germen* (fig. 3.) superior, nearly egg-shaped. *Styles* (fig. 3.) 5, (occasionally 3 or 4), awl-shaped, longer than the stamens. *Stigmas* reflexed, downy. *Capsule* (figs. 4 & 6.) more or less perfectly egg-shaped, of 1, 3, or 5 cells, opening by 5 or 10 recurved teeth. *Seeds* (figs. 7 & 8.) many, roundish, roughish, attached to the unconnected central *receptacle* or *placenta.*

In *Ly'chnis vesc'aria* the petals are scarcely divided, and the capsule has 5 cells. In *Ly'chnis dioica* the stamens and pistils are, for the most part, separated; that is, growing on two different plants.

Distinguished from other genera in the same class and order, by the 5- or 1-celled many-seeded capsule, and the tubular, membranous, 5-toothed calyx.

Four or five species British.

LY'CHNIS FLOS CU'CULI‡. Meadow Lychnis. Ragged Robin.

SPEC. CHAR. Petals in 4 strap-shaped segments. Capsule roundish, of 1 cell.

Engl. Bot. t. 573.—Curt. Fl. Lond. t. 33.—Linn. Sp. Pl. p. 625.—Huds. Fl. Angl. (2nd ed.) p. 199.—Sm. Fl. Brit. v. ii. p. 493. Eng. Fl. v. ii, p. 326.—With. (7th ed.) v. ii. p. 563.—Lindl. Syn. p. 47.—Hook. Brit. Fl. p. 212.—Light. Fl. Scot. v. i. p. 239.—Sibth. Fl Oxon. p. 145.—Abbot's Fl. Bedf. p. 100.—Purt. Midl. Fl. v. i. p. 221.—Relh. Fl. Cantab. (3rd ed.) p. 183.—Hook. Fl. Scot. p. 141.—Grev. Fl. Edin. p. 102.—Fl. Devon. pp. 77 & 182.—Johnston's Fl. of Berwick, v. i. p. 100.—Walk. Fl. of Oxf. p. 128.—Mack. Catal. p. 45.—*Ly'chnis plumária*, Gray's Nat. Arr. v. ii p. 649.—*Ly'chnis plumária sylvéstris símplex*, Ray's Syn. p. 338.—*Armoária praténsis mas*, Johnson's Gerarde, p. 600.

LOCALITIES.—In most meadows and pastures.

Perennial.—Flowers in June and July.

Fig. 1. Calyx.—Fig. 2. The Stamens, and one Petal, a little magnified.—Fig. 3. Germen and Pistils.—Fig. 4. Unripe Capsule.—Fig. 5. The Placenta, or Receptacle of the Seed.—Fig. 6. Ripe Capsule, with the teeth reflexed.—Fig. 7. A Seed.—Fig. 8. The same magnified.—Fig. 9. Part of the Root.

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* From *luchnos*, Gr. *a lamp;* the thick cottony substance of the leaves of some species, or some similar plant, having been employed as wicks to lamps. Dr. HOOKER. Or, as others conjecture, from the resemblance of the semi-transparent calyx to a lantern. Dr. WITHERING.

† See *Saponária officinális*, p. 37. note †.

‡ *Flos, a flower*, and *Cuculus*, the *Cuckoo; Cuckoo-flower.*—Goats, sheep, and horses are said to eat this plant; cows and swine to refuse it.

Root tapering, fibrous, of a somewhat brownish colour, slightly acrid. *Stems* from 1 to 2 feet or more high, upright, somewhat angular and grooved, leafy, rough with small bristly, closely deflexed hairs; often sending forth leafy branches from the bottom; the upper part clammy and brownish. *Stem-leaves* opposite, connate (united at the base), spear-shaped, keeled, nearly smooth. *Root-leaves* tapering into footstalks. *Panicle* terminal, forked, upright, clammy, with a pair of broad membranous, pointed *bracteas* at each subdivision. *Calyx* 10-angled, of a purplish colour. *Corolla* large and handsome, rose-coloured, sometimes white. *Petals* deeply 4-cleft, the 2 outer segments the shortest; the claw (the narrow part of the petal which is inclosed within the calyx) with a pair of sharp, red, upright teeth, at the upper part. These teeth constitute what is commonly called the crown (corona) of the corolla. *Capsule* (figs. 4 & 6.) roundish egg-shaped, of 1 cell, with 5 marginal teeth, which finally become reflexed. *Seeds* somewhat kidney-shaped, rugged, of a brownish colour.

There is a variety of this species with a white, and another with a very double or full flower. The last is a very handsome plant, and on that account is frequently cultivated in gardens, where it is highly deserving a place. Both varieties are sometimes met with wild. I have observed the white one in a lane leading out of the Abingdon road to Bagley Wood, near the second milestone from Oxford; and in July, 1831, I found the double-flowered variety in a meadow about half a mile from Rugby, in Warwickshire, near the footpath leading from the West Leys to Lawford.—Mr. WOODWARD is said to have found the same variety near Bungay in Suffolk.

This plant has a variety of names in English; as Meadow Pink, Wild Williams, Ragged Robin, Feathered Wild Campion, Marsh Gilliflowers, Crow-flower, Cuckoo-flower, &c.

"The agreement between the blowing of flowers, and the periodical return of birds of passage," says Mr. CURTIS, in his excellent *Flora Londinensis*, "has been attended to from the earliest ages: before the return of the seasons was exactly ascertained by Astronomy, these observations were of great consequence in pointing out stated times for the purposes of Agriculture; and still, in many a cottage, the birds of passage, and their corresponding flowers, assist in regulating,

'The short, and simple Annals of the Poor.'

"For this reason, no doubt, we have several other plants that, in different places, go by the name of Cuckow-flower. GERARDE says, *Cardámine praténsis* (*common Ladies' Smock*) is the true Cuckow-flower. SHAKSPEARE'S Cuckow-buds are of 'yellow hue,' and probably *Ranunculus*, or Crow-foot. By some, the Orchis, Arum, and Oxalis, or Wood-sorrel, are all called after the Cuckow."

Some interesting observations respecting the coincidence of the flowering of particular plants, and the arrival of certain birds of passage, may be seen in STILLINGFLEET'S "Tracts relating to Natural History," &c. 4th edition, p. 148.; and LOUDON'S Mag. of Nat. Hist. v. iii. p. 17.





EUPHRASIA OFFICINÁLIS. *COMMON EYE-BRIGHT.* ☉

C. Kathrens Del. & Sc.

EUPHRA'SIA *.

Linnean Class and Order. DIDYNA'MIA †, ANGIOSPE'RMIA ‡.

Natural Order. RHINANTHA'CEÆ, *Dec.*—Lindl. Introd. to the Nat. Syst. of Bot. p. 230.—SCROPHULARI'NEÆ, Lindl. Syn. p. 187.—Rich. by Macgilliv. p. 434.—SCROPHULA'RINÆ, Loud. Hort. Brit. p. 528.—PEDICULA'RES, Juss. Gen. Pl. p. 99.—Sm. Gram. of Bot. p. 96.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, tubular, cylindrical, ribbed, permanent; the margin in 4 deep, nearly equal, pointed teeth. *Corolla* (fig. 2.) of 1 petal, ringent, open; tube as long as the calyx, cylindrical; upper lip slightly concave, with several notches; lower lip spreading, divided into 3, more or less unequal, obtuse, cloven, or inversely heart-shaped, lobes. *Filaments* (fig. 4.) thread-shaped, directed towards the upper lip. *Anthers* incumbent, large, of 2 roundish lobes, pointed at the base, the points of the lower anthers elongated into straight bristly spines. *Germen* (fig. 3.) egg-shaped. *Style* (fig. 3.) thread-shaped, as long as the stamens. *Stigma* blunt, undivided. *Capsule* (fig. 5.) oblong, blunt, compressed, emarginate, (notched at the summit,) of 2 cells and 2 membranous valves. *Seeds* (figs. 6 and 7.) several, very small, elliptical, compressed, furrowed or striated on each side.

The 4-cleft calyx; spinous anthers; 2-celled capsule; and furrowed or striated seeds; will distinguish this from other genera in the same class and order.

One species British.

EUPHRA'SIA OFFICINA'LIS. Common Eyebright.

SPEC. CHAR. Leaves egg-shaped, furrowed, sharply toothed.

Eng. Bot. t. 1416.—Curt. Fl. Lond. t. 335.—Linn. Sp. Pl. p. 841.—Huds. Fl. Angl. (2nd ed.) p. 269.—Woodv. Med. Bot. Suppl. t. 220.—Sm. Fl. Brit. v. ii. p. 650. Eng. Fl. v. iii. p. 122.—With. (7th ed.) v. iii. p. 728.—Gray's Nat. Arr. v. ii. p. 309.—Lindl. Syn. p. 191.—Hook. Brit. Fl. p. 283.—Lightf. Fl. Scot. v. i. p. 323.—Sibth. Fl. Oxon. p. 192.—Abbot's Fl. Bedf. p. 134.—Purt. Midl. Fl. v. i. p. 289.—Relh. Fl. Cantab. (3rd ed.) p. 250.—Hook. Fl. Scot. p. 186.—Grev. Fl. Edin. p. 135.—Rev. G. E. Smith's Pl. of S. Kent, p. 32.—Fl. Devon. pp. 103 & 147.—Johnston's Fl. of Berwick v. i. p. 135.—Walk. Fl. of Oxf. p. 174.—*Euphrásia*, Ray's Syn. p. *284.—Johnson's Gerarde, p. 663.

LOCALITIES.—On heaths, downs, and in mountainous meadows, and pastures. Common.

Annual.—Flowers from June to September.

Root fibrous and whitish. *Stem* from 1 to 6 inches high, upright, square, leafy, downy, either simple or branched. *Leaves* sessile, almost entirely opposite, small, egg-shaped, downy, strongly ribbed

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. Germen, Style, and Stigma.—Fig. 4. Stamens.—Fig. 5. Capsule.—Figs. 6 & 7. Seed.—All, except fig. 6, more or less magnified.

* From *Euphrosyne*, Gr. *expressive of joy and pleasure;* in allusion to its properties. Dr. HOOKER.

† See *Lamium album*, p. 31. note †.

‡ From *aggos*, Gr. *a vessel*, and *sperma*, Gr. *a seed;* the seeds in this order of the LINNEAN class Didynamia being enclosed in a *seed-vessel*. It contains the *Personátæ (masked flowers)* of LINNÆUS; and most of the *Pediculáres* and *Scrophuláriæ* of JUSSIEU.

and furrowed, serrated or indented, teeth pointed. *Flowers* axillary, solitary, very abundant, inodorous, forming a leafy spike, or raceme at the tops of the branches and stem. *Calyx* (fig. 1.) angular, hairy, four-toothed, teeth nearly equal, spear-shaped, pointed. The *Corolla* (fig. 2.) varies much in size as well as colour, being commonly white, with deep purple streaks, and a yellowish palate. *Anthers* violet or brown, armed with 2 spines at the base. *Germen* (fig. 3.) a little hairy at the top. *Style* pubescent on the upper part; *stigma* fringed, with very minute glands round the edge. *Capsule* (fig. 5.) 4-cornered at the bottom, compressed above, slightly notched at the end, a little hairy towards the top, and marked with black dots. *Seeds* few, somewhat angular, thin at the edges, strongly striated, or furrowed, at the sides. Sir J. E. SMITH informs us that on the mountains of Scotland there is a more slender variety, with smaller but more richly tinted blossoms; and that a dwarf, large-flowered, more purple variety, is common on the Alps.

"No gems," says the Rev. GERARD EDWARDS SMITH, in his pleasing little work above referred to; "No gems can equal this brilliant and lasting ornament of the turf. When Summer, with her gay companions, has deserted the woods and the fields, when the completion of the harvest has robbed the landscape of its richer features, the grassy downs are still glowing with the tufted *Euphrásia*, which scattered around, yet reminds us, by its beautifully varied white, of snow, a chill, though beneficial attendant of approaching winter. Its whiteness is tastefully varied with purple and pale yellow; as a hint, which though unwelcome, is kindly and delicately conveyed."

Eyebright is a weak astringent, and was formerly in much repute as a specific ophthalmic. Mr. LIGHTFOOT informs us, that the Highlanders in Scotland make an infusion of it in milk, and anoint the patient's eyes with a feather dipped in it; and, according to Dr. HOOKER, it is still much used in rustic practice as a remedy for diseases of the eye. MILTON, who most probably from his own misfortune, had been induced to use this plant, makes the Archangel Michael employ it, to remove the film from the eyes of our first parents occasioned by eating the forbidden fruit:—

> ——— ———"But to nobler sights
> MICHAEL from ADAM's eyes the film remov'd,
> Which that false fruit that promis'd clearer sight
> Had bred; then purg'd with *Euphrasy* and rue
> The visual nerve, for he had much to see."

It is, however, neglected by the faculty; and even thought by some to be injurious, at least in inflammations of the eyes; a friend of LOBEL's is said nearly to have lost his eyesight by the use of it. "In such contrariety of sentiment," says Mr. CURTIS, "it will, perhaps, be most prudent not to lay too much stress on so doubtful a remedy." It is supposed to be an ingredient in ROWLEY's *British Herb Tobacco.*

Cows, horses, goats, and sheep eat it, swine refuse it. *Urédo Rhinanthacearum* of Dr. GREVILLE's *Flora Edinensis*, is common on the leaves and stems of this, and some other plants of the natural family *Rhinanthácea*, about Oxford.





NARCÍSSUS PSEUDO-NARCÍSSUS. *COMMON DAFFODIL.* 2/

I. Russell Del. *C. Mathews Sc.*

NARCI'SSUS*.

Linnean Class and Order. HEXA'NDRIA†, MONOGY'NIA‡.

Natural Order. AMARYLLI'DEÆ§, *Dr. R. Brown.*—Lind. Syn. p. 264.; Introd. to Nat. Syst. p. 259.; Loud. Hort. Brit. p. 538.—NARCISSEÆ, Rich. by Macgilliv. p. 407.—NARCISSI, *Sect.* 2. Juss. Gen. Pl. p. 54.—Sm. Gr. of Bot. p. 75.

GEN. CHAR. *Calyx* none. *Corolla (Periánthium*||*)* superior, funnel-shaped; limb in 6 egg-shaped, pointed, flat segments; orifice of the tube with a bell-shaped, or cup-shaped crown or *nectary*. *Filaments* 6 (fig. 1.), awl-shaped, inserted into the tube of the corolla, and concealed within the nectary. *Anthers* strap-shaped, incumbent (turned inwards), bursting along their outer edges. *Germen* (fig. 2.) inferior, roundish, with 3 blunt angles. *Style* (fig. 2.) slender, triangular, longer than the stamens. *Stigma* in 3 concave blunt segments. *Capsule* (fig. 3.) roundish, bluntly 3-angled, of 3 cells, and 3 valves, with central partitions (fig. 4). *Seeds* several, globose.

Distinguished from other Genera of the same class and order by the superior, tubular corolla or perianthium, with a 6-parted limb, and a bell-shaped or cup-shaped crown or nectary, which conceals the stamens.

Monocotyledonous *plants*, with a coated bulbous *root*, several radical *leaves* growing in 2 opposite ranks, which are strap-shaped, somewhat succulent (juicy), smooth; and either flattish, or semi-cylindrical and tubular. *Stalk (scape)* from the centre of the bulb, bearing one or many *flowers*, from a terminal, membranous, simple, permanent, sheathing *bractea*. *Flowers* yellowish, or whitish, or partaking of both colours.

Three species British.

NARCI'SSUS PSEUDO-NARCI'SSUS. Common Daffodil.

SPEC. CHAR. Sheath 1-flowered. Crown or nectary bell-shaped, upright, crisped at the margin, obsoletely 6-cleft, as long as the egg-shaped segments of the corolla.

Eng. Bot. t. 17.—Linn. Sp. Pl. p. 414.—Huds. Fl. Angl. (2nd ed.) p. 141.—Sm. Fl. Brit. v. i. p. 355. Eng. Fl. v. ii. p 132.—With. (7th ed.) v. ii. p. 420.—Lindl. Syn. p. 265.—Hook. Brit. Fl. p. 152.—Sibth. Fl. Oxon. p. 109.—Abbot's Fl. Bedf. p. 73.—Haworth, in Linn. Soc. Tr. vol. v. p. 243.—Purt. Midl. Fl. v. i. p. 168.—Relh. Fl. Cantab. (3rd ed.) p 137.—Hook. Fl. Scot. p. 100.—Grev. Fl. Edin. p. 75.—Fl. Devon. pp. 57 & 130.—Johnston's Fl. of Berwick, v. ii. p. 291.—Walk. Fl. of Oxf. p. 91.—Curt. Brit. Entom. v. ii. t. 98 ¶.—

Fig. 1. The 6 Stamens, attached to the base of the Nectary.—Fig. 2. Germen, Style, and Stigma.—Fig. 3. Capsule.—Fig. 4. A transverse section of the same, showing the 3 dissepiments, one from the middle of each valve.

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* From *narce*, Gr. *stupor*; in allusion to the powerful and injurious smell of the flowers of some of the species. More immediately derivable from the youth *Narcissus*, who was fabled to be changed into this flower; an inhabitant, sometimes, of watery places, by the banks of streams. Dr. HOOKER.

† See *Galánthus nivális*, p. 33, n. †. ‡ See *Hippúris vulgáris*, p. 49, n. ‡.

§ See *Leucójum æstivum*, p. 55. || See *Galánthus nivális*, p. 33, n. ‡.

¶ British Entomology; being illustrations and descriptions of the Genera of Insects, found in Great Britain and Ireland; containing Coloured Figures, from nature, of the most rare and beautiful species, and, in many instances, of the Plants upon which they are found. By JOHN CURTIS, F. L. S. London, 1824—1834. Mr. CURTIS has given such correct and very beautiful delineations

Perry's Pl. Varicenses Selectæ, p. 29.—Mack. Catal. of Pl. of Ircl. p. 32.—*Narcissus Sylvéstris pállidus, cályce lúteo,* Ray's Syn. p. 371.—Rudbeck's Campi Elysii, (in the Sherardian Library, Oxford,) v. ii. p. 70. f. 8.—*A'jax festális,* Salisbury, in Hort. Soc. Tr. v. i. p. 347.—Haworth's Narcissineärum Monográphia, (2nd ed.) p. 8.—*A'jax fenestrális,* Gray's Nat. Arr. v. ii. p. 191. —*Pseudonarcissus Anglicus,* Johnson's Gerarde, p. 133.

Localities.—In moist woods, meadows, sides of hedges, and in orchards. Frequent.—*Oxfordsh.* Noke Woods: Dr. Sibthorp. In a wood near Woodeaton: W. B.—*Berks;* In woods: Mr. Bicheno. Lower Inlands, and Longclose at Appleton: Mr. H. Barrett.—*Bedfordsh.* Clapham, and Warden: Rev. C. Abbot.—*Cambridgesh.* Whitwell, near Coton; and about Whittlesford: Rev. R. Relhan. Near Cambridge: Rev. Professor Henslow, in Curt. Entomology.—*Cheshire;* In some closes at Bellow-hill, near Whitechurch: Mr. Vernon. Near Chudleigh: Rev. J. P. Jones, in Bot. Tour. In several orchards at Ilsington, abundant; Monaton, in similar situations; fields adjoining the Dartmouth road, at Paignton: Rev. A. Neck, in Fl. Devon.—*Durham;* Near Pierce Bridge: Mr. Winch.—*Essex;* In a wood near Broomfield: J. G. in Loud. Mag. of Nat. Hist. v. iv. p. 446. In a large field near Woodford: Mr. R. Warner.—*Gloucestersh.* Bitton, near Henham Chapel: Rev. H. T. Ellicombe.—*Hertfordsh.* In the meadows near Leverstock Green: Rev. S. Palmer, in Loud. Mag. of Nat. Hist. v. ii. p. 386.—*Huntingdonsh.* In Pexton Wood: Mr. Woodward.—*Kent;* Near Charlton, and Woolwich; and in woods near Erith. In orchards near Selling-street: Mr. E. Jacob.—*Lancash.* At Bank Hall, near Liverpool: Dr. Bostock.—*Middlesex;* Near Hareficld: Mr. Blackstone. In a field behind the King's Head Inn, in Mill Hill: Mr. R. A. Salisbury, in Hort. Soc. Tr. v. i. p. 348. In *Norfolk;* Mr. Woonward.—*Shropsh.* About Macley: Dr. Martyn.—*Worcestersh.* About Hanley Castle: Mr. Ballard. On the Malvern Hills; in profusion in a wood near Malvern Church; and some full-flowered varieties in other parts: Mr. E. Lees, in Loud. Mag. of Nat. Hist. v. iii p. 161. Abundant in fields near Yardley-Wood Pool: Dr. Withering.—*Warwicksh.* Pastures about Sutton Coldfield, plentiful: Ray. Covers almost a whole field beyond Erdington, on the road from Birmingham to Sutton: Dr. Withering. Studley and Sambourne, plentiful: Mr. Purton.—*Yorksh.* On the banks of the river Wherf, at Thorp-arch near Castle Howard: Mr. Teesdale, in Linn. Soc. Tr. vol. v. p. 48. Near Kirkstall Abbey: Mr. R. A. Salisbury, in Hort. Soc. Tr. v. i. p. 348.—*Berwicksh.* Near Chillingham, in profusion: Mrs. Langhorne, in Fl. of Berwick.—WALES. Llanedwan, Anglesey: Rev. H. Davies.—SCOTLAND. In meadows in the neighbourhood of Culross: Mr. Maughan. In a wood at Dunoon, scarcely indigenous: Mr. Murray.—IRELAND. Fields near Templeogue: Mr. J. T. Mackay.

Perennial.—Flowers in March and April.

Root a roundish tunicated bulb, of a dark brown or blackish colour on the outside. *Leaves* several, upright, strap-shaped, rather glaucous, bluntly keeled, and rather flat at the edges. *Stalk (scape)* 2-edged, from 8 or 10 inches to about a foot high. *Bractea* (*spatha* of Linnæus) close to the base of the Germen, undivided. *Flower* solitary, large, a little drooping, of an unpleasant scent. Mr. Salisbury says he has sometimes met with a few flowers of this species, with a totally different and pleasant smell, like that of a *Polyanthus.* *Segments* of the corolla, egg-spear-shaped, pale yellow, longer than the funnel-shaped tube. *Nectary* of a full yellow or gold colour, about as long as the segments of the corolla, the margin scolloped or notched, scarcely at all lobed, differing in this respect from the plant figured in English Botany, t. 17, in which the nectary is very distinctly 6-lobed, and the lobes finely serrated or toothed. *Stamens* inserted in the tube of the corolla, shorter than the nectary, in which they are concealed. *Anthers* oblong, approaching. *Germen* globose, with 3 furrows.

A variety of this, with double or full flowers, is sometimes met with, especially about old orchards, having probably escaped from gardens, where this, and 2 or 3 other varieties of the same species, are frequently cultivated.

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of so many of our native Plants, in this elegant work, as to render it, as far as the Plates are considered, nearly as useful and interesting to the Botanist, as it is to the Entomologist.



HYACINTHUS NON-SCRIPTUS. HARE-BELL. 2l

W.A. Delamotte Del. Pub.d by W. Baxter, Botanic Garden Oxford 1836. C. Mathews Sc.

HYACI'NTHUS*.

Linnean Class and Order. HEXA'NDRIA†, MONOGY'NIA.

Natural Order. ASPHODE'LEÆ‡, *Dr. R. Brown.*—Lindl. Syn. p. 266; Introd. to Nat. Syst. p. 273.—Loud. Hor. Brit. p. 539.—ASPHO'DELI, Juss. Gen. Pl. p. 51.—Sm. Gram. of Bot. p. 74.—LILIA'CEÆ, Rich. by Macgilliv. p. 403.

GEN. CHAR. *Calyx* none. *Corolla (Perianthium* §*)* (fig. 1.) inferior, of one petal, deeply divided into 6 segments, which are connivent at the bottom into a tube, and reflexed at the summit, permanent. *Filaments* 6, thread-shaped, inserted upon the segments, (fig. 2). *Anthers* oblong, incumbent. *Germen* superior, roundish. *Style* simple, shorter than the stamens, deciduous. *Stigma* simple, blunt. *Capsule* bluntly 3-cornered, 3-celled, and 3-valved, each valve with a central dissepiment or partition. *Seeds* roundish, several in each cell.

The tubular, deeply 6-parted, permanent corolla; the stamens inserted on the segments; and the bluntly 3-cornered capsule of three many-seeded cells; will distinguish this from other Genera, with a naked, inferior corolla, in the same class and order.

One species British.

HYACI'NTHUS NON SCRIPTUS. English Harebell. Wild Hyacinth.

SPEC. CHAR. Leaves flaccid, strap-shaped. Cluster drooping. Bracteas in pairs.

Curt. Fl. Lond. t. 139.—Linn. Sp. Pl. p. 453.—Huds. Fl. Angl. (2nd ed.) p. 141.—Lindl. Syn. p. 270.—Hook. Brit. Fl. p. 157.—Sibth. Fl. Oxon. p. 110.—Abbot's Fl. Bedf. p. 74.—Purt. Midl. Fl. v. i. p. 171.—Hook. Fl. Scot. p. 102.—Grev. Fl. Edin. p. 76.—Fl. Devon. pp. 58 & 130.—Mack. Catal. of Pl. of Irel. p. 33.—*Hyacinthus nutans*, Gray's Nat. Arr. v. ii. p. 177.—*Hyacinthus Anglicus*, Ray's Syn. p. 373.—Johnson's Gerarde, p. 111.—*Hyacinthus oblongo flore, cæruleus major*, Rudb. Elys. v. ii. p. 26. f. 1.—*Scilla nutans*, Engl. Bot. t. 377.—Sm. Fl. Brit. v. i. p. 366. Engl. Fl. v. ii. p. 147.—With. (7th ed.) v. ii. p. 429.—Relh. Fl. Cant. (3rd ed.) p. 140.—Johnston's Fl. of Berwick, v. i. p. 78.—Curt. Brit. Entom. v. i. t. 49.—Walk. Fl. of Oxf. p. 94.—*Scilla non scripta*, Annals of Botany, v. i. p. 103.

LOCALITIES.—In woods, coppices, under hedges, and on heaths. Common. Perennial.—Flowers in May and June.

Root a roundish, white, coated (tunicated), mucilaginous, and acrid bulb. *Leaves* numerous, all springing from the bulb, of a shining, pale, slightly glaucous, green colour, strap-shaped, pointed, channelled, keeled, flaccid; upright in their lower half, then reflexed and drooping. *Scape* (*stalk*) from six inches to a foot or more high, upright, round, smooth, solid, and brittle. *Cluster* (*raceme*) partly upright, drooping in the upper half, of many

Fig. 1. Corolla spread open, showing the 6 Stamens, the Germen, Style, Stigma, and the partial Flower-stalk, with the two bracteas at its base.—Fig. 2. A segment of the Corolla, with a Stamen attached to it.—Fig. 3. The Capsule.—Fig. 4. A Seed.

* From the youth *Hyacinthus*, who being killed by Apollo, was changed by him into a plant, whose foliage bore the initials of his name. Our only British species, having no mark or figure, was hence called *non-scriptus*. Dr. HOOKER. Or, it may be derived either from *ia*, Gr. a violet; or *ai*, Gr. emphatic of grief; and *Cynthus*, one of the names of Apollo. Dr. WITHERING.

The *Hare-bell (Hyacinthus non scriptus)* is dedicated to St. George, the patron Saint of England.

† See *Galánthus nivális*, p. 33, note †.

‡ See *Gágea lútea*, p. 41.

§ See p. 33, note ‡.

pendulous, unilateral, sweet-scented flowers, each nearly an inch long, of a blue or violet colour, sometimes white, more rarely flesh-coloured. *Bracteas* coloured, two to each flower, spear-shaped, tapering, unequal, nearly upright, and longer than the partial stalks. *Corolla* tubular, nearly cylindrical, 6-parted to the very base, the tips of the segments turned back (reflexed). *Stamens* 6, their *filaments* adhering to the segments of the corolla half way up. *Anthers* incumbent (turned inwards), somewhat arrow-shaped. *Germen* egg-shaped, angular, without honey-bearing pores. *Style* about the same length, deciduous, except the very base. *Stigma* blunt, valves of the *capsule* (fig. 3.) egg-shaped, pointed. *Seeds* numerous, roundish, of a blue colour, with a polished surface.

The white flowered variety is frequently met with, the flesh-coloured one is more rare; I have observed them both on Shotover Hill, near Oxford.—The roots, when fresh, are poisonous. They may be converted into starch; and I am informed, that the juice is sometimes added to gum-water to give it strength.

Phalæna Plantaginis lives upon this plant; and *Puccinia Scillarum*, Grev. MSS. (see my *Stirp. Crypt. Oxon.* fasc. 1. n. 40.) is parasitical on the leaves of it in the vicinity of Oxford. This *Puccinia* is a new species, and was first observed by myself on the leaves of *Scilla Campanulata*, in the Oxford Botanic Garden, in May, 1823. The English Hyacinth is a graceful and ornamental plant, and is, on that account, often admitted into gardens; but the many beautiful varieties of Hyacinths so much prized by the florist, are derived from *Hyacinthus Orientalis*, a native of the Levant, and which is said to be very abundant about Aleppo and Bagdad.

" There appears to be considerable doubt to which plant the popular name of Hare-bell properly belongs; it has usually been given by Botanists to the Wild Hyacinth, but the descriptions of the Poets apply much better to the Campanula. Dr. JOHNSON, in his Dictionary, describes the Hare-bell as ' A blue flower *campaniform*,' and cites SHAKSPEARE, Cymbeline, Act IV. Scene 2.

——————' Thou shalt not lack
' The flow'r that's like thy face, pale primrose; nor
' The *azur'd* hare-bell like thy veins.'

" SCOTT also describes it as slight and elastic:
' A foot more light, a step more true,
' Ne'er from the heath-flower dashed the dew;
' E'en the *slight* hare-bell raised its head,
' *Elastic* from her airy tread.'—Lady of the Lake, Canto I.

" Again, ' For me,—she stoop'd and, looking round,
' Pluck'd a blue hare-bell from the ground,
' For me, where memory scarce conveys
' An image of more splendid days,
' This little flower, that loves the lea,
' May well my simple emblem be;
' It drinks heaven's dew as blithe as rose
' That in the King's own garden grows.' "—Canto II.



GALEÓPSIS VERSÍCOLOR *BEE-NETTLE* ☉

W.A.Delamotte, Del. C.Mathews, Sc

GALEO'PSIS*.

Linnean Class and Order. DIDYNA'MIA †, GYMNOSPE'RMIA ‡.

Natural Order. LABIA'TÆ, Juss. Gen. Pl. p. 110.—Sm. Gram. of Bot. p. 99.; Eng. Fl. v. iii. p. 63.; Lind. Syn. p. 196.; Introd. to Nat. Syst. p. 239.; Bentham, in Botanical Register, (1829.)—Rich. by Macgilliv. p. 439.; Loud. Hort. Brit. p. 528.—VERTICILLATÆ of Ray, and of Linnæus.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal (monosepalous), bell-shaped, with 5 teeth, terminating in sharp spines (thorns) as long as the tube, permanent. *Corolla* (fig. 2.) of 1 petal, gaping (ringent); tube slender at the base, dilated upwards into a wide throat, longer than the calyx, marked in front, at the base of the lower lip, with 2 prominences, which are hollow underneath; upper lip roundish, concave (arched or vaulted), serrated at the extremity; lower lip in 3 deep lobes; the lateral ones roundish; the middle one largest, cleft and notched. *Filaments* 4, two long and two short, awl-shaped, covered by the upper lip (see fig. 3). *Anthers* roundish, of 2 valves. *Germen* (fig. 5.) superior, 4-lobed. *Style* (fig. 4.) thread-shaped, as long as the stamens. *Stigma* divided into 2 pointed, spreading segments. *Seeds* 4, triangular, convex at the top, in the bottom of the stiff, thorny, open-mouthed calyx.

The 2 hollow projections at the base of the lower lip of the corolla, will distinguish this genus from all others, with a nearly regular, 5-cleft calyx, in the same class and order.

Four species British.

GALEO'PSIS VERSI'COLOR. Large-flowered Hemp-nettle. Bee-nettle.

SPEC. CHAR. Stem bristly; swollen below the joints. Corolla thrice the length of the calyx; upper lip horizontal, inflated; middle lobe of the lower lip heart-shaped.

Curt. Fl. Lond. t. —. Engl. Bot. t. 667.—Sm. Fl. Brit. v. ii. p. 630. Eng. Fl. v. iii. p. 95.—With. (7th ed.) v. iii. p. 712.—Gray's Nat. Arr. v. ii. p. 378.—Lindl. Syn. p. 204.—Hook. Brit. Fl. p. 276—Purt. Midl. Fl. v. iii. p. 565.—Relh. Fl. Cantab. (3rd ed.) p. 240.—Hook. Fl. Scot. p. 182.—Grev. Fl. Edin. p. 131.—Johnston's Fl. of Berwick, v. i. p. 132.—Walk. Fl. of Oxf. p. 167.—Perry's Pl. Varvic. Selectæ, p. 49.—Mack. Cat. Pl. of Irel. p. 55.—*Galeópsis cannabina*, Willd. Sp. Pl. v. iii. p. 93.—*G. Tetrahit.* var. β. Linn. Sp. Pl. p. 810.—Lightf. Fl. Scot. v. i. p. 310.—Huds. Fl. Angl. (2nd ed.) var. δ. p. 257.—*Lamium cannabino folio, flore amplo luteo, labio purpureo*, Ray's Syn. p. 241.

LOCALITIES.—In sandy corn-fields; rare in ENGLAND.—*Oxfordsh.* Near Bladon: Mrs. VAUGHAN THOMAS, and G. COLES, Esq. F. L. S.—*Bucks;* Near Burnham: Mr. P. FROST, and Mr. W. HURST.—*Cambridgesh.* In corn-fields, near the second bridge in the footpath to Hinton; Fulbourn, near the entrance

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Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. The same, opened longitudinally to show the Stamens.—Fig. 4. Germen, Style, and Stigma.—Fig. 5. The 4 unripe Seeds.—Fig. 6. A ripe Seed.

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* From *gale*, Gr. a *weasel*, and *opsis*, Gr. *appearance;* from the resemblance in the lips of the flower to the snout of an animal. Dr. HOOKER.

† See *Lamium album*, p. 31, note †. ‡ See p. 31, note ‡.

into the town from Hinton; Audrey Causeway; Wisbeach: Rev. R. Relhan. —*Cheshire;* Near Northwick: Rev. H. Davies. Corn-fields about Congleton, Stockport, and Chester: Mr. W. Christy.—*Derbysh.* About Matlock Bath, and Driffield: Sir T. G. Cullum.—*Essex;* In a corn-field at the bottom of Ribton-lane, near Woodford: Mr. Warner.—*Herefordsh.* In the northern parts of the county: Mr. Duncumb.—*Lancash.* Hedges at Kirkby in Furness: Mr. Atkinson.—*Lincolnsh.* Near Grantham: Dr. Martyn.—*Norfolk;* About Norwich, and at Watlington: Sir J. E. Smith.—*Northumberland;* Banks of the Tyne at Low Paik; and at Jesmond, near Newcastle: Mr. Winch.—*Shropsh.* Near Baschurch and Llanymenech, abundantly; Ceynham Camp, Ludlow: Dr. Evans.—*Suffolk;* About Blythburgh, in the higher ground near the road, among turnips; at Leiston, and the country near the coast: Rev. G. Crabbe. About Yarmouth: Mr. Wigg. Turnip-fields at Gillingham: Mr. D. Turner. Fields at Beccles, between the town and the Fen: Mr. F. Turner.—*Sussex;* In hedges in the great road beyond Eridge Park near Tunbridge Wells: Mr. Forster.—*Warwicksh.* Near Coleshill: Countess of Aylesford, and Rev. W. T. Bree. Under a moist hedge at Binches Green, near Birmingham: Dr. Withering. In turnip-fields at Milcote, near Stratford-upon-Avon: Rev. W. S. Rufford, in Purt. Midl. Fl.—*Westmoreland;* In fallow ground near Hutton Roof: Mr. Atkinson.—*Yorksh.* Corn-fields between Beverley and Sancton; near Green Hammerton: Mr. Teesdale. Near Scarborough: Rev. Archdeacon Pierson. Very common about Copgrove: Rev. J. Dalton. Near Ripon, abundantly: Mr. Brunton. About Bingley and Keighly: Whittaker's Craven.—WALES. *Denbighsh.* In corn-fields about Chirk; and in many small inclosures by the road-side leading from Chirk to Llangollen: Mr. Griffith. On the hills about Chirk: Mr. H. Barrett, 1832.—[*Berwick;* Near Burnhouses and Whitchester: Rev. A. Baird, in Fl. of Berw. About Wooler: Mrs. M. T. Johnston, ibid. Abundant in a field below Langleyford; and between Huntley-wood and Ledgerwood, sometimes varying with a white lower lip: Dr. Johnston, ibid.]—SCOTLAND. Corn-fields about Edinburgh and Glasgow, very common: Mr. Maughan and Mr. Hopkirk, in Fl. Scot. At Gretna Green: Sir T. G. Cullum. At Moffet: Sir J. E. Smith. On the coast north of Oban: Dr. Bostock. And in other parts of Scotland.—IRELAND. In potatoe-fields near Glasnevin: Mr. Underwood. In potatoe-fields near Sligo: Mr. Mackay.

Annual.—Flowers from June to August.

Root fibrous. *Stem* from one to two feet high, upright, leafy, 4-angled, swelled below the joints, much branched, branches opposite, and, like the stem, clothed with strong, rough hairs. *Leaves* egg-shaped, large, petiolate, pointed, of a pale green, hairy, serrated (saw-toothed). *Flowers* large and very handsome, sessile, growing in whorls, whorls many-flowered, the uppermost nearly contiguous. *Corolla* about an inch long, pale yellow, lower lip deep yellow, divided in 3 segments, the middle segment purple, bordered with white; its base of a deep yellow colour, beautifully marked with red veins in the form of net-work, with 2 blunt, hollow protuberances at the base in front; upper lip broad, convex, very hairy, toothed on the edge. *Filaments* white. *Anthers* double, first nearly round, finally pointed, and edged with hairs.

A very handsome plant, and well deserving a place in the flower garden. Dr. Withering observes, that several species of this genus yield a fibre worthy of being manufactured as hemp.



CALLÚNA VULGÁRIS. *COMMON LING* ♄

C.Mathews Del.& Sc. Pub.d by W.Baxter Botanic Gardn. Oxford 1834.

CALLU'NA*.

Linnean Class and Order. OCTA'NDRIA†, MONOGY'NIA.

Natural Order. ERI'CEÆ, *Dr. R. Brown.*—Lind. Syn. p. 172; Introd. to Nat. Syst. p. 182; Loud. Hort. Brit. p. 523.—ERI'CÆ, Juss. Gen. Pl. p. 159.; Sm. Gram. of Bot. p. 115.—ERICI'NEÆ, Rich. by. Macgilliv. p. 450.

GEN. CHAR. *Calyx* (fig. 4.) inferior, permanent, double; *outermost* of 4 oblong, blunt, fringed leaves; *inner* of 4 elliptic-spear-shaped, concave, coloured, polished sepals, concealing the corolla. *Corolla* (fig. 3.) of one petal, bell-shaped, deeply 4-cleft, upright, much shorter than the inner calyx. *Filaments* 8, (figs. 5. and 6.) from the receptacle, short, curved. *Anthers* terminal, upright, spear-shaped, with 2 lateral oblong orifices, each united before bursting, with the similar orifice of its neighbour at each side; the base bearing 2 deflexed bristles. *Germen* superior, roundish, depressed. *Style* (fig. 7.) cylindrical, nearly upright, the length of the inner calyx. *Stigma* capitate (knobbed), with 4 notches. *Capsule* concealed by the inflexed, permanent, inner calyx, round, a little depressed, with 4 furrows, 4 simple valves, and 4 cells; the partitions simple, flat, alternate, and unconnected with the valves, fixed vertically to a large, egg-shaped, pitted, permanent, central *column*. *Seeds* numerous, small elliptic-oblong, attached to the column.

Differs from *Erica* in having a double calyx, and in the dissepiments (partitions) being attached to the column, and opposite to the margins of the valves. It may be distinguished from other Genera, in the same class and order, by the monopetalous, inferior, 4-cleft corolla; and the 4-valved, 4-celled capsule, with simple partitions.

Only one species known.

CALLU'NA VULGA'RIS. Common Ling. Heather. Grig.

SPEC. CHAR.

Sm. Engl. Fl. v. ii. p. 225.—With. (7th edit.) v. ii. p. 481.—Lindl. Syn. p. 173.—Hook. Brit. Fl. p. 177. Hook. Fl. Scot. p. 119.—Grev. Fl. Edin. p. 88.—Fl. Devon. pp. 68 & 153.—Johnston's Fl. Berwick, v. i. p. 88.—Curt. Brit. Entom. v. iii. p. 145.—Walk. Fl. of Oxf. p. 110.—*Callùna sagittæfòlia*, Gray's Nat. Arr. v. ii. p. 399.—*Erica vulgàris*, Linn. Sp. Pl. p. 501.—Curt. Fl. Lond. t. 197.—Eng. Bot. t. 1013.—Huds. Fl. Angl. (2nd ed.) p. 165.—Sm. Fl. Brit. v. i. p. 417.—Lightf. Fl. Scot. v. i. p. 203.—Sibth. Fl. Oxon. p. 124—Abbot's Fl. of Bedf. p. 87.—Purt. Midl. Fl. v. i. p. 192.—Relh. Fl. Cantab. (3rd ed.) p. 159.—Mack. Catal. of Pl. of Irel. p. 37.—Ray's Syn. p. 470.—John. Ger. p 1380.

LOCALITIES.—On heaths, dry moors, open barren wastes, and in woods where the soil is sandy. Very common.

A Shrub.—Flowers in June, July, and August.

Figs. 1 & 2. A Flower, with a small bit of the branch, and some of the leaves.—Fig. 3. Corolla.—Fig. 4. Outer and inner Calyx.—Fig. 5. Stamens and Pistil.—Fig. 6. A separate Stamen.—Fig. 7. Germen, Style, and Stigma. All magnified.

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* From *calluno*, Gr. to *cleanse*, or *adorn*; which is doubly suitable, whether we take it to express a cleansing property, brooms being made of this plant; or whether we adopt the more common sense of the word, to *ornament* or *adorn*, which is very applicable to the flowers. SIR J. E. SMITH.

The *Ling (Callùna vulgàris)* is the badge of the Scottish Clan *Macdonell*.

† See *Adòxa moschatéllina*, p. 42, note †.

Stems very woody, one to two feet high, or more, repeatedly and irregularly branched, branches reddish. *Leaves* minute, opposite, sessile, with 2 small decurrent spurs at the base, closely imbricated on the young branches, in four rows, generally smooth, sometimes pubescent, or even hoary, as in variety β. of Sir J. E. Smith's English Flora. *Flowers* (fig. 1.) small, reddish, or pale rose-coloured, sometimes white, on short stalks, drooping, in longish unilateral clusters, which are soon over-topped by leafy shoots. *Outer calyx* (*Bracteæ* of Lindl. and Hook.) of 4 small green leaves, which are often tinged with red, and fringed at the edge with soft hairs; *inter* or *proper calyx*, which is the most conspicuous part of the flower (see figs. 1 and 4.), consists of 4, somewhat egg-shaped, concave sepals, of a shining permanent rose-colour. *Corolla* of 1 petal, much shorter than the calyx, divided above half way down into 4 (sometimes 5) egg-shaped, blunt, equal segments (fig. 3.), of a pale purple rose-colour, white towards the base. *Filaments* 8, awl-shaped, white, or tinged with purple. *Anthers* not protruding beyond the corolla, reddish-brown or orange-coloured, spear-shaped, with 2 cells opening at the sides; horns awl-shaped, white, sometimes cloven, pointing downwards, nearly half the length of the filaments, pollen white. *Style* cylindrical, slanting upwards, white, purplish above, longer than the calyx. *Stigma* purplish-red. *Capsule* small, inclosed by the permanent proper calyx.

There is a beautiful variety of this, with double flowers, which is commonly met with in the nurseries; it sometimes occurs with white flowers; and a variety, with hoary leaves, is not uncommon on Shotover Hill, near Oxford, and many other places.

This lovely gem, "whose modest bloom sheds beauty o'er the lonely moor," and almost every heath, and barren open waste in Great Britain and Ireland, where the soil is sandy; is applied to a great variety of purposes, in the bleak and barren Highlands of Scotland, and other northern countries. The poorer inhabitants cover their cabins with it instead of thatch; they also construct the walls of their cottages with alternate layers of Heath, and a kind of mortar, made of black earth and straw, the woody roots of the Heath being placed in the centre, and the tops externally and internally. The hardy Highlanders frequently make beds of it, laying the roots downwards, and the tops upwards. In this manner they are said to form a bed so pleasant, that it may vie in softness with the finest down, while in salubrity it far exceeds it. Mr. M'Nab, the present able Curator of the Royal Botanic Garden of Edinburgh, says he can state, from his own experience, that a dry bed of native heather is, to the weary traveller in many parts of the Highlands, a real luxury. In most of the western isles they dye their yarn of a yellow colour, by boiling it in water with the green tops and flowers of this plant; and woollen cloth boiled in alum water, and afterwards in a strong decoction of the tops, comes out a fine orange colour. It has also been found, by boiling, to afford a good liquor for tanning leather. In the island of Ilay, ale is frequently made by brewing one part malt and two parts of the young tops of Heath; sometimes hops are added. Boetius relates, that this liquor was much used by the Picts. In Scotland, ropes are made of Heath. In most parts of Great Britain it is generally used for making besoms. Sheep and goats sometimes eat the tender shoots, but they are not fond of them. The grouse and heath-cock feed upon them, and on the seeds; and for this purpose the seed-vessel is so constructed as to retain the seeds for a considerable length of time, instead of discharging them as soon as they become ripe. Bees extract much honey from the flowers, but it has a reddish cast, and is coarse.

The foliage affords nourishment to the caterpillar of the Great Egger Moth, (*Phalæna Quercus*). The Lesser Dodder (*Cúscuta Epithymum*) is frequently parasitical on this plant, about which it entwines itself, giving it an appearance which may puzzle, if not mislead, the inexperienced Botanist.



SPARTIUM SCOPARIUM *COMMON BROOM.* ♄

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W.A.B. del.

SPAR'TIUM*.

Linnean Class and order. DIADE'LPHIA†, DECA'NDRIA.

Natural Order. LEGUMINO'SÆ, Juss. Gen. Pl. p. 345.—Sm, Gr. of Bot. p. 174.—Lindl. Syn. p. 75 ; Introd. to Nat. Syst. p. 87.—Rich. by Macgilliv. p. 532.—Sm. Engl. Fl. v. iii. p. 259.—Loud. Hort. Brit. p. 509.—PAPILIONA'CEÆ, of Linnæus.

GEN. CHAR. *Calyx* (fig. 1.) inferior, cup-shaped, of 1 sepal, 2-lipped ; lips coloured, blunt ; upper lip with 2, lower lip with 3, very slight teeth. *Corolla*, of 5 petals ; standard (vexillum) broadly egg-shaped, entirely reflexed, very large ; wings (alae) egg-shaped, oblong, shorter than the standard, connected below with the filaments ; keel (carina) of 2 petals, spear-shaped, oblong, blunt, longer than the wings, attached to the filaments. and connected together at the lower edges by entangled hairs. *Filaments* (fig. 2) 10, all united into one tube, which is sometimes slit along the upper side, unequal, thread-shaped, the lowermost gradually longest. *Anthers* oblong, versatile (vane-like). *Germen* (fig. 3.) oblong, compressed, hairy. *Style* (fig. 3.) awl-shaped, curved, or contorted, upwards. *Stigma* oblong, hairy, running along the upper edge of the blunt style. *Legume* (fig. 4.) much compressed, oblong, blunt, of 1 cell, and 2 elastic valves, subtended by the permanent calyx, and tipped with the twisted style, which is at length deciduous. *Seeds* (figs. 5 & 6.) several, roundish-kidney-shaped, crested.

The *filaments* being all connected at the base, and all forming a simple tube ; the strap-shaped, hairy, lateral *stigma* ; and the flat *legume* ; will distinguish this from other genera in the same class and order.

One species British.

SPAR'TIUM SCOPA'RIUM. Common Broom.

SPEC. CHAR. Leaves ternate, or solitary. Branches angular without thorns. Legume fringed.

Eng. Bot. t. 1339.—Curt. Fl. Lond. t. —Linn. Sp. Pl. p. 996.—Huds. Fl. Angl. (2nd ed.) p. 310.—Woodv. Med. Bot. v. ii. p. 243. t. 89.—Sm. Fl. Brit. v. ii. p. 753.—Engl. Fl. v. iii. p. 261.—With. (7th ed.) v. iii. p. 827.—Lightf. Fl. Scot. v. i. p. 382.—Sib. Fl. Oxon. p. 218.—Abbot's Fl. Bedf. p. 153.—Purt. Midl. Fl. v. i. p. 328.—Relh. Fl. Cant. (3rd ed.) p. 287.—Johnston's Fl. of Berw. v. i. p. 157.—Walk. Fl. of Oxf. p. 204.—Mack. Cat. of Pl. of Ireland, p. 65.—*Genista*, Johnson's Ger. p. 1311.—*Genista angulosa trifolia*, Ray's Syn. p. 474.—*Genista Scopária*, Lamarck's Flore Françoise, v. iv. p. 497.—Hook. Fl. Scot. p. 211.—Grev. Fl. Edin. p. 154.—Fl. Devon. pp. 119 & 173.—*Genista vulgaris*, Gray's Nat. Arr. v. ii. p. 595.—*Cytisus scopárius*, Link.—Lindl. Syn. p. 77.—Hook. Brit. Fl. p. 319.

Fig. 1. Calyx.—Fig. 2. Calyx, Stamens, and Style.—Fig. 3. Germen and Style.—Fig. 4. Legume.—Figs. 5 & 6. Seed.—Fig. 6. A little magnified.

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* From *spao*, Gr. *to draw*, because ropes, by which things are drawn, are formed of it. Dr. THORNTON.

† From *dis*, Gr. *twice*, and *adelphos*, Gr. *a brother*. (Two brotherhoods.) The 17th class in the LINNEAN *Artificial System*. It comprehends those plants which bear perfect flowers, the stamens of which are united by the lower part of their filaments into 2 sets. In a few instances both sets are combined at the base, which is the case in the genus *Spár'tium ;* but in general, in the order *Decandria* of this class, there are nine united filaments, and one odd one.

Localities—On heaths; and in dry woods, and fields, on a gravelly soil.—Frequent in most counties in *England*, *Ireland*, *Scotland*, and *Wales*.

A Shrub.—Flowers in May and June.

A large bushy *shrub*, from 3 to 6 feet, or more, high, very much branched. *Branches* long, straight, angular, dark green, smooth, and tough. *Leaves* deciduous, scattered, small, ternate; the upper ones generally simple; *leaflets* inversely egg-shaped, blunt, entire; silky when young. *Flowers* axillary, solitary, or in pairs; on round, smooth *flower-stalks*, which are longer than the leaves. *Calyx* somewhat bell-shaped, often purplish; the upper segment with 2 teeth larger than those of the lower. *Corolla* large and handsome, of a fine golden yellow; sometimes tinged with orange; more rarely of a uniform pale lemon-colour. Standard nearly round, slightly notched at the summit. The two petals of the keel rather hooked, and united at the lower edge by an intertexture of very fine, soft, woolly hairs. *Stamens* four long and six short. Tube of the *filaments* soon split by the swelling *germen*. *Style* bowed almost into a circle, and after flowering into a spiral, the extremity not hairy. *Legume* brown, flat, above an inch long, nearly smooth at the sides, but fringed with hairs at each margin. *Seeds* about 15 or 16, each with a gland or crest at the base, which falls off when the seeds are fully ripe.

The great profusion of beautiful, golden yellow blossoms, which this shrub produces during the early part of Summer, renders it highly deserving a place in the shrubbery. It merits some attention also as a useful plant in rural œconomy and medicine. "It was formerly called *Planta Genista*, and under this name possesses much historial interest, as from hence was derived the word *Plantagenet*. Geffroi, duke of Anjou, father of our Henry the Second, was in the practice of wearing a sprig of *Planta Genista* in his cap; or, as an old writer quaintly expresses it, 'he wore commonly a broom-stalk in his bonnet;' and from this circumstance he acquired the name of Plantagenet, which he transmitted to his princely descendants, who all bore it, from Henry, who has been called the first royal sprig of Genista, down to Richard the Third, the last degenerate scion of the plant of Anjou." *Wild Garland*, p. 76.

The broom has a bitter taste and diuretic quality. A decoction of the young twigs is a good remedy in dropsies. In the neighbourhood of Ghent, Broom is sown with the view of improving poor sandy soils, and the young flower-buds, gathered in the spring, are often pickled and eaten as capers. The seeds roasted, have been sometimes used as a kind of coffee, and the tender tops as a substitute for hops. The twigs and branches were formerly used for making besoms.

> "The vagrant artist oft at eve reclines,
> And *Broom's* green shoots in besoms neat combines."

They are also used for tanning leather, for which purpose they are said to be not inferior to oak bark. In North Britain cottages and ricks are thatched with this plant; and in certain districts, where coal and wood are scarce, the cultivation of it has been encouraged for the purpose of fuel. The old wood furnishes the cabinet-maker with most beautiful materials for veneering. The macerated bark is found capable of being manufactured into cloth; and the plant, when burnt, affords a tolerably pure alkaline salt.

The flowers yield an abundant supply of honey for bees. In some parts of Britain, it is customary to pasture flocks where Broom abounds in blossom, and thus in the opinion of many intelligent farmers, is the disease called the rot prevented.

Orobanche major, or *Broom-rape*, is sometimes found attached to the roots of this plant. The Broom is now the badge of the Highland clan Forbes.



CONVALLÁRIA MAJÁLIS. *LILY OF THE VALLEY.* 4

W.A.D.del

Pub^d by W. Baxter Botanic Garden, OXFORD. 1834

J.H.S.

CONVALLA'RIA*.

Linnean Class and Order. HEXA'NDRIA†, MONOGY'NIA.
Natural Order. SMILA'CEÆ. *Dr. R. Brown.*—Lindl. Syn. p. 270.; Introd. to Nat. Syst. of Bot. p. 277.—Loud. Hort. Brit. p. 538.—ASPA'RAGI, Juss. Gen. Pl. p. 40.—Sm. Gr. of Bot. p. 71.—ASPARAGI'NEÆ, Tribe PARI'DEÆ. Rich. by Macgilliv. p. 402.—CONVALLARIA'CEÆ, *Link.*

GEN. CHAR. *Calyx* none. *Corolla (Perianthium* ‡*)* (fig. 1.) inferior, of one petal, bell-shaped, deciduous; the border in 6 blunt, spreading segments. *Filaments* (fig. 1.) 6, awl-shaped, equal, very short, inserted into some part of the tube of the corolla, not reaching to the border. *Anthers* terminal, oblong, upright. *Germen* (fig. 2.) superior, roundish. *Style* thread-shaped, longer than the stamens. *Stigma* blunt, triangular. *Berry* (fig. 3.) globular, of 3 cells. *Seeds* (fig. 5.) 1 or 2 in each cell, externally globose, with a horny *albumen*; the *embryo* straight, opposite to the scar.

The naked, inferior, six-cleft, deciduous *Corolla*; the triangular *stigma*; and the 3-celled *berry*; will distinguish this from other Genera in the same class and order.

Four species British.

CONVALLA'RIA MAJA'LIS§. Lily of the Valley. May Lily.

SPEC. CHAR. Scape semicylindrical. Leaves 2, elliptical, radical. Flowers racemed, cup-shaped, drooping.

Engl. Bot. t. 1035.—Curt. Fl. Lond. t. 302.—Linn. Sp. Pl. p. 451.—Huds. Fl. Angl. (2nd ed.) p. 146.—Sm. Fl. Brit. v. i. p. 370. Eng. Fl. v. ii. p. 154.—With. (7th ed.) v. ii. p. 433.—Gray's Nat. Arr. v. ii. p. 187.—Lindl. Syn. p. 270.—Hook. Brit. Fl. p. 152.—Sibth. Fl. Oxon. p. 111.—Abbot's Fl. Bedf. p. 76. t. 2.—Purt. Midl. Fl. v. i. p. 174. and v. iii. p. 351—Relh. Fl. Cantab. (3rd ed.) p. 141.—Curt. Brit. Entom. v. 9. t. 430.—Hook. Fl. Scot. p. 103.—Grev. Fl. Edin. p. 77.—Rev. G. E. Smith's Pl. of S. Kent. p. 21.—Perry's Pl. Varvic. Select. p. 30.—Walk. Fl. of Oxf. p. 95.—*Lilium convallium*, Ray's Syn. p. 264.—Johnson's Gerarde, p. 410.

LOCALITIES.—In groves, woods, and on heaths, in shady situations.—*Oxfordshire;* Beech Woods near Stoken Church: Dr. SIBTHORP. In Whichwood Forest: Dr. MARTYN. In Stoke Lyne Great Wood: Mr. G. WOODWARD, Surgeon, Bicester.—*Berks;* Abundant in Bagley Wood, towards Sunningwell: Mr. JAMES BENWELL, 1813. In the same place 1833. In a Copse above Childswell Farm: JOHN IRELAND, Esq. M. D. 1823 and 1832: W. B. In a small Island in the Thames, opposite Straw Hall, near Reading: Mr. A. R. BURT.—*Bedfordsh.* Aspley Wood: Rev. C. ABBOT. Woburn: Dr. MARTYN.—*Bucks;* Stowe Woods: Mr. G. WOODWARD.—*Cambridgesh.* Whitewood, near Gamlingay: Rev. R. RELHAN.—*Cheshire;* Between Bidston and Woodside: Dr. BOSTOCK.—*Cumberland;* Coomswood, Armathwaite: Mr. HUTCHINSON.—*Derbysh.* On a hill called Vigelia, about 2 miles from Matlock: N. B. YOUNG, Esq. New Coll. Oxford.—*Devon;* on Dartmoor, near the river Dart: Mr. H. BARRETT.—*Dorsetsh.* Woods at Grange, in Purbeck: Dr. PULTENEY.—*Durham;* Castle Eden Dean: Mr. S. ROBSON.—*Essex;* very abundant on Little Baddow Common: J. G. in Mag. N. H. v. iv. p. 446. near Lee: Dr.

Fig. 1. Corolla cut vertically, and spread open to shew the 6 stamens.—Fig. 2. Germen, Style, and Stigma.—Fig. 3 A Berry.—Fig. 4. A transverse section of do.—Fig. 5. A Seed.

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* From *Convallis*, a *valley*, from the locality of the species. Dr. HOOKER.

"There wrapt in verdure fragrant lilies blow,
Lilies that love the *vale* and hide their bells of snow."

† See *Galanthus nivalis*, p. 33. note †. ‡ See p. 33. note ‡.

§ From its season of flowering.

Martyn.—*Hertfordsh.* Cashioberry: Dr. Martyn.—*Kent;* Chiselhurst: Dr. Martyn. In Woods above Stowting: Mr. Andrews. Westfield, Ashford: Rev. G. E. Smith.—*Lancash.* Rowdsey Wood, Cartmel, plentifully: Mr. Jackson.—*Leicestersh.* Buddon and Okely Woods: Dr. Martyn.—*Middlesex;* Hampstead-heath: Gerarde. Norwood, abundantly: Dr. Martyn.—*Norfolk;* In Woods: Mr. Crow.—*Northamptonsh.* King's Cliff: Dr. Martyn.—*Surrey;* Copse near Worplesdon: Rev. S. Palmer, in M. N. H. v. ii. p. 266. Addington, near Croydon: Mr. W. Pamplin, jun.—*Warwicksh.* Woods near Allesley and Corley; Bentley Park, and Hay Wood: Rev. W. T. Bree, in M. N. H. v. iii. p. 164.—*Westmorland;* Kendal: Dr. Martyn.—*Worcestersh.* In Shrawley Woods, abundantly: Mr. Hickman.—*Yorksh.* Common in moist woods in Craven: Mr. Caley. Near Rotherham: Mr. L. Langley, in M. N. H. v. ii. p. 269.—WALES. *Denbighsh.* In Garreg Wen Wood, near Garn: Mr. Griffith.—SCOTLAND. *Perthsh.* Scotland-wald and Methven Wood: Sabbald. In a small Glen called the Clough, N. of Gask: Mr. D. Don. Arniston and Collington woods, near Edinburgh: Mr. Maughan. Near the falls of Clyde, plentifully: Mr. Hopkirk. Den of Rechip: Rev. Mr. M'Ritchie. Cliesh: Mr. Arnott.

Perennial.—Flowers in May.

Root thread-shaped, creeping horizontally just below the surface of the ground to a considerable distance, with numerous round fibres which are tranversely wrinkled, and very much entangled. *Leaves* two, radical, elliptic or spear-shaped, pointed at each end, 4 or 5 inches long, and near an inch and a half broad in the middle, quite entire, many-ribbed, smooth, stalked. *Footstalks* longer than the leaves, upright, folded, clasping each other, and sheathed at the base with several purplish scales. *Scape* solitary, simple, smooth, semicylindrical, springing from the root, on the outside of the footstalks within the uppermost sheath, and bearing a simple, curved cluster of several pendulous, very elegant, sweet-scented, white flowers; each on a partial-stalk, which is accompanied at its base by a spear-shaped *Bractea*. *Corolla* bell-shaped; the limb in 6 deep, broad, recurved lobes, with wide rounded interstices. *Stamens* inserted on the corolla. *Berry* scarlet, round, as large as a black currant.

There is a variety of this species with double, and another with reddish flowers, sometimes cultivated in gardens.

"The Lily of the Valley," says Dr. Martyn, "claims our notice both as an ornamental and a medicinal plant. As an ornamental one, few are held in greater estimation; indeed few flowers can boast such delicacy with so much fragrance. When dried they have a narcotic scent; and if reduced to powder excite sneezing. As an errhine it is still esteemed for relieving disorders of the head. An extract prepared from the flowers, or from the roots, partakes of the bitterness, as well as of the purgative properties, of Aloes. The dose is from 20 to 30 grains. A beautiful and durable green colour may be prepared from the leaves by the assistance of lime." In Germany the flowers form an ingredient in cephalic and cordial wine. The distilled water from the flowers was formerly in great repute, (*Aqua aurea*), as a preventive of infectious distempers, and believed to be beneficial to the nerves.

According to the observations of Linnæus Sheep and Goats eat it; Horses, Cows, and Swine, refuse it.

TO THE LILY OF THE VALLEY.

"Sweet flower o' the valley, wi' blossoms o' snaw,
And green leaves that turn the cauld blast frae thy stems;
Bright emblem o' innocence thy beauty I lo'e,
Aboon the king's coronet 'circled wi' gems!

There's nae tinsel about thee, to make thee mair bright,
Sweet Lily! thy loveliness a' is thine ain;
And thy bonny bells dangling sae pure and sae light,
Proclaim thee the fairest o' Flora's bright train."



LOBELIA URENS. *ACRID LOBELIA.* 4

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J.R.del. *C.M.Sc.*

LOBE'LIA*.

Linnean Class and Order. PENTA'NDRIA†, MONOGY'NIA.

Natural Order. LOBELIA'CEÆ, Juss.—Lindl. Syn. p. 137.; Introd. to Nat. Syst. p. 187.—Loud. Hort. Brit. p. 522.—CAMPANULA'CEÆ, *Sect.* 2. Juss. Gen. Pl. p. 163.—Sm. Gram. of Bot. p. 117.—Rich. by Macgilliv. p. 453.

GEN. CHAR. *Calyx* (fig. 3.) superior, of 1 sepal, deeply divided into 5 small, nearly regular permanent segments, surrounding the summit of the germen. *Corolla* (fig. 1.) of 1 petal, irregular; tube cylindrical, longer than the calyx, split along the upper side; limb in 5 deep, spear-shaped segments; the 2 uppermost small, most reflexed, and most deeply separated, constituting the upper lip; the rest more spreading, generally larger, forming the under lip. *Filaments* (fig. 2.) awl-shaped, as long as the tube, united at the top. *Anthers* united into a cylinder, separating at the base into 5 parts. *Germen* inferior, pointed. *Style* cylindrical, as long as the stamens. *Stigma* capitate (knobbed), usually 2-lobed, hairy. *Capsule* (fig. 3.) elliptical, angular, of 2 or 3 cells, and 2 or 3 valves, which open at the top, within the circumference of the calyx; Partitions contrary to the valves. *Seeds* numerous, minute, covering the conical receptacle.

Distinguished from other genera in the same class and order, by the Monopetalous, superior, irregular *corolla* split lengthwise on the upper side; the united *anthers;* blunt, usually 2-lobed, hairy *stigma;* and the 2- or 3-celled capsule.

Two species British.

LOBE'LIA U'RENS. Acrid Lobelia.

SPEC. CHAR. Stem upright; lower leaves inversely egg-shaped, slightly toothed; upper spear-shaped, serrated. Clusters terminal.

Eng. Bot. t. 953.—Curt. Fl. Lond. t. —Linn. Sp. Pl. p. 1321.—Huds. Fl. Angl. (2nd ed.) p. 378.—Sm. Fl. Brit. v. i. p. 243. Eng. Fl. v. i. p 298.—With. (7th ed.) v. ii. p. 307.—Gray's Nat. Arr. v. ii. p. 412.—Lindl. Syn. p. 137.—Hook. Brit. Fl. p. 99.—Fl. Devon. pp. 38 and 154.

LOCALITIES.—On bushy heaths.—Very rare.—*Devonshire;* On Shute Common, between Axminster and Honiton: Mr. NEWBURY. On the slope of Kilmington Hill, two miles from Axminster, close to the road: 1796; LORD WEBB SEYMOUR. In the same place: 1831; Rev. Dr. BARNES, Christ Church, Oxford. Near Ottery St. Mary: 1800: Miss BURGESS.

Fig. 1. Corolla cut open longitudinally to show the 5 filaments.—Fig. 2. The 5 Filaments, the Summits and the Anthers united.—Fig. 3. Germen, Calyx, and Style.—All a little magnified.

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* So named in honour of MATHIAS *de* LOBEL, or L'OBEL, a Flemish Physician, who past the greatest part of his life in England, and was Botanist to King James the First. He was born at Brussels in 1538, and at an early age became enamoured with the love of Plants. In 1570 he published, in conjunction with PENA, the first edition of his *Stirpium Adversaria;* this afterwards underwent several improvements; it is a work of much merit, and abounds with curious information. In 1576 he published *Observationes, sive Stirpium Historicæ, cui annexum est Adversariorum Volumen*, with 1486 figures. He was through life a considerable traveller, and a zealous promoter of his favourite science. He died in 1616, aged 78.

† See *Anchusa sempervirens*, p. 48, note †.

Perenniel.—Flowers from July to September.

Root fibrous. *Stem* from one to two feet high, upright, branched, leafy, angular, roughish, not hairy. *Root-leaves* elliptical, smooth, bluntish, narrowed at the base into foot-stalks, somewhat toothed. *Stem-leaves* distant, alternate, sessile, rather decurrent, with shallow, irregular, tooth-like serratures. *Clusters* upright, long, simple, lax, with short, roughish partial flower-stalks. *Bracteas*, upper ones spear-shaped, lower ones nearly strap-shaped, and terminating at top in 3 little teeth. *Calyx* (fig. 3.) 5-cleft, rough, segments awl-shaped, upright. *Corolla* light purplish-blue, slightly downy. *Tube* twice the length of the calyx, ribbed, of a pale colour. *Anthers* (fig. 2.) incurved, downy externally, blackish. *Capsule*, (fig. 3.) of 2 cells. Whole *plant* milky, fœtid, and very acrid.

It is a very rare plant, and deserving of culture; may be raised from seed, or increased by dividing the roots.

The drawing was made from a plant, which was presented to the Oxford Botanic Garden, by the Rev. Dr. Barnes, Canon of Christ Church, who has kindly favoured me with the following information respecting its locality.

"The plant of *Lobelia urens*, which flowered in the Physic Garden, in the year 1832, was found growing wild on Kilmington Common, about a mile and a half from Axminster, Devon, on the great Western Road. It is to be found in tolerable abundance on the north side of the road, immediately on entering the common from the eastward; growing amongst short furze, and tufts of grass, on dry ground, not bog, as represented in some books on Botany, nor in the blackish earth in which the *Heath* grows; but on poor, stony, clayey loam, which forms a tract running northward, opposite a public house called the George. It seems to increase by seeds and to be either biennial or perennial. The plants of the first year do not flower, but produce only a few leaves, which lie flat on the ground, and are generally protected by the edge of the short furze bushes or tufts of grass."

The Natural Order Lobeliaceæ, to which the present plant belongs, is composed of dicotyledonous, *Herbaceous* Plants or *Shrubs*, with alternate *leaves*, without *stipulæ*. The *Flowers* are axillary or terminal; the *Calyx* superior, 5-lobed, or entire; the *Corolla* monopetalous, irregular, inserted in the calyx, and 5-lobed, or deeply 5-cleft. The *Stamens* are 5 in number, and inserted into the calyx alternately with the lobes of the corolla; *Anthers* cohering; *Pollen* oval. The *Ovarium (Germen)* is inferior, with from 1 to 3 cells; the *Ovula* are very numerous, and are attached either to the axis, or to the lining; the *Style* is simple; and the *Stigma* is surrounded by a cup-like fringe. The *Fruit* is capsular, and 1- or more-celled, cells many-seeded, dehiscing at the apex. Seeds attached either to the lining, or to the axis of the pericarpium; *Embryo* straight, in the axis of the fleshy albumen; *Radical* pointing to the *Hilum*. See Lindley's Synopsis.





HYPÉRICUM PERFORÁTUM. COMMON ST? JOHN'S-WORT. 4

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W.A.D. del. Sh. s.

HYPE'RICUM*.

Linnean Class and Order. POLYADE'LPHIA† POLYA'NDRIA.

Natural Order. HYPERICI'NEÆ, *Juss.*—Lindl. Syn. p. 41.; Introd. to Nat. Syst. p. 47.—Rich. by Macgilliv. p. 486.—Loud. Hort. Brit. p. 504.—HYPE'RICA, Juss. Gen. Pl. p. 254—Sm. Gram. of Bot. p. 143.

GEN. CHAR. *Calyx* (fig. 2.) inferior, of 1 sepal, deeply divided into 5 nearly egg-shaped, concave, somewhat unequal, permanent segments. *Corolla* of 5 egg-shaped or oblong, blunt, spreading petals. *Filaments* (fig. 1.) numerous, hair-like, united at the base into 3 or 5 sets (Polyadelphous). *Anthers* small, roundish, tremulous. *Germen* (fig. 2.) superior, egg-shaped. *Styles* (fig. 2.) terminal, simple, usually 3, sometimes 1, 2, or 5, distant, the length of the stamens. *Stigmas* simple. *Capsule* (fig. 4.) membranous, with as many cells as there are styles. *Seeds* very numerous, generally oblong, roundish, without *albumen*.

Distinguished from *Androsæmum*, t. 39, by the membranous capsule.

Ten species British.

HYPE'RICUM PERFORA'TUM. Common Perforated St. John's-wort.

SPEC. CHAR. Styles three. Stem two-edged, (fig. 6.). Leaves elliptic-oblong, blunt, with copious pellucid dots. Segments of the Calyx spear-shaped.

Eng. Bot. t. 295.—Curt. Fl. Lond. t. —Linn. Sp. Pl. p. 1105.—Huds. Fl. Angl. (2nd ed.) p. 333.—Sm. Fl. Brit. v. ii. p. 801. Eng. Fl. v. iii. p. 325.—Woodv. Med. Bot. v. i p. 29. t. 10.—With. (7th ed.) v. iii. p. 870.—Gray's Nat. Arr. v. ii. p. 633.—Lind. Syn. p. 42.—Hook. Brit. Fl. p. 335.—Lightf. Fl. Scot. v. i. p. 416.—Sibth. Fl. Oxon. p. 234.—Abbot's Fl. Bedf. p. 165.—Purt. Midl. Fl. v. i. p. 351.—Relh. Fl. Cant. p. 307.—Hook. Fl. Scot. p. 221.—Grev. Fl. Edin. p. 164.—Fl. Devon. pp. 127 & 178.—Johnston's Fl. of Berwick, v. i. p. 167.—Walk. Fl. of Oxf. p. 218—Mack. Cat. of Pl. of Ireland, p. 68.—Fl Bath. p. 9‡.—*Hypericum*, Ray's Syn. p. 342.—Johnson's Gerarde, p. 539.

LOCALITIES.—In woods, hedges, thickets, and on dry banks. Common.

Perennial.—Flowers in July and August.

Root woody, tufted, of a brown colour, somewhat creeping. *Stem* about two feet high, upright, woody, smooth, nearly round, alternately two-edged (fig. 6.), much branched. Branches opposite, nearly upright, two-edged. *Leaves* very numerous, crossing each other in pairs, elliptical or egg-shaped, blunt, various in width, of a yellowish green, with 7 or 5 semitransparent lines, and several

Fig. 1. Stamens.—Fig. 2. Calyx, Germen, and Styles.—Fig. 3. A Stamen magnified.—Fig. 4. Capsule, accompanied at the base by the permanent calyx.—Fig. 5. Transverse section of ditto.—Fig. 6. A small bit of one of the Branches a little magnified, to show the two sharp edges.

* From *uper*, Gr. *against*, and *eicon*, Gr. *an image* or *spirit*; it being considered an amulet or preservative from evil spirits. Dr. WITHERING.

† See *Androsæmum officinale*, p. 39, note †.

‡ "Flora Bathoniensis; or, A Catalogue of the Plants indigenous to the vicinity of Bath. By Charles C. BABINGTON, M.A. F. L. S. &c. Bath, 1834," pp. 74. A very useful pocket guide to the localities of the Phænogamous Plants growing wild in the neighbourhood of Bath.—In this work the plants are arranged according to the Natural System.

black dots near the edges on the under side; and numerous pellucid dots on the surface, which appear more distinct if held up to the light. *Flowers* bright yellow, dotted and streaked with black, or dark purple, numerous, in dense, forked, terminal *panicles*. *Calyx segments* (fig. 2.) narrow, spear-shaped, taper-pointed. *Petals* striated, set near the edges, and sometimes over the whole surface with very dark purple glands; one of the sides entire, the other irregularly notched. *Filaments* numerous, united at the bottom into 3 scarcely distinct parcels (fig. 1.). *Anthers* 2-lobed, lobes roundish, with a small, globular, black gland between them (see fig. 3.); this "little black gland," Mr. CURTIS observes, "at one view distinguishes this species, without any further investigation." *Germen* (fig. 2.) egg-shaped. *Styles* 3, thread-shaped, yellow. *Stigmas* simple, sometimes crimson. *Capsule* (fig. 4.) large, egg-shaped.

"As this plant was found to bleed at the slightest touch, it was supposed to have a vulnerary quality, and became the 'Balm of the Warrior's wound,' giving a blood-red colour to every composition, whether of a spirituous or oily nature, into which it entered. The essential oil, the seat of this colour, is aromatic, and possibly tonic or stimulating; without much acrimony." *Engl. Fl.*

The dried plant boiled in water with alum, dyes wool of a yellow colour.

"In former times the *Hypericum* or *St. John's-wort*, was looked upon as a 'plant of power' in the expulsion of demons, in hindering witches of their will, and in prognosticating the good or bad fortune of young men and maidens, as to their obtaining partners for life. In Lower Saxony the young girls, to this day, gather sprigs of it on Midsummer night, and fasten them to the walls of their bed-chamber. If, on the ensuing morning, the sprig remains fresh, a suitor may be expected; if it droop or wither, the maid is destined to an early grave. *Hypericum perforatum* is the species which was used in this country; and the belief in its virtues is said still to linger among the people of North Wales. This superstition gave origin to some beautiful and romantic lines, transcribed from a German Almanack, and published in BLACKWOOD'S *Magazine* for January, 1821. These lines have been copied into *Times Telescope* for 1823, p. 163.—FORSTER'S *Perennial Calendar*, p. 310.—WITHERING'S *Bot. Arr.* (7th ed.) v. iii. p. 871.—JOHNSTON'S *Flora of Berwick-upon-Tweed*, v. i. p. 166; and into a very delightful little volume, *The Naturalist's Poetical Companion*, p. 59.

The Natural Order HYPERICI'NEÆ is composed of dicotyledonous *Herbaceous* Plants, and *Shrubs*, or even *Trees*, with a resinous juice. *Leaves* opposite, simple, dotted. *Flowers* generally yellow. *Inflorescence* variable. *Calyx* in 4 or 5, very deep, somewhat unequal segments, with glandular dots. *Corolla* of 4 or 5 hypogynous Petals, which are spirally twisted previous to their evolution, often having black dots. *Stamens* indefinite, hypogynous (inserted below the germen), in 3 or more parcels. *Anthers* versatile (vane-like). *Ovary (Germen)* single, superior, surmounted by several *Styles*, which are sometimes united into one; *Stigmas* simple. *Fruit* a capsule or berry, of many valves and many cells; the inner edges of the valves being curved inwards. *Seeds* numerous, very minute, usually tapering; *Embryo* straight, with an inferior *Radicle*, and no *Albumen*. Most of the species of this family of plants, have, in the substance of their leaves, transparent glands, which, on being held between the eye and the light, look like so many little holes. This character, together with the very numerous stamina and the polyspermous cells of the fruit, perfectly distinguish the Hypericineæ from the families that are allied to it. See *Lindl. Syn.* and *Rich. by Macgilliv.*

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